

SEQUENCE LISTING

<110> Jacobs, Kenneth
McCoy, John M.
LaVallie, Edward R.
Collins-Racie, Lisa A.
Evans, Cheryl
Merberg, David
Treacy, Maurice
Agostino, Michael J.
Steininger II, Robert J.
Spaulding, Vikki
Wong, Gordon G.
Clark, Hilary
Fecht, Kim
Genetics Institute, Inc.

"Express Mail" mailing label number EV194362278US
Date of Deposit July 8, 2003
I hereby certify that this paper or fee is being deposited with
the United States Postal Service "Express Mail Post Office to
Addressee" service under 37 CFR 1.10 on this date indicated above
and is addressed to the Commissioner of Patents and Trademarks.
P.O. Box 1450, Alexandria, VA 22313-1450

Chris D. Nguven
(Typed or printed name of person mailing paper or fee)


(Signature of person mailing paper or fee)

<120> SECRETED PROTEINS AND POLYNUCLEOTIDES ENCODING THEM

<130> 00766.000103.5

<140>

<141>

<160> 240

<170> PatentIn Ver. 2.0

<210> 1

<211> 1925

<212> DNA

<213> Homo sapiens

<400> 1

aggtcgctcac	agacgatgat	ggccaggccc	cggaggctaa	ggacggcagc	tccttttagcg	60
gcagagtttt	ccgagtgacc	ttcttgatgc	tggtctgttc	tctcaccgtt	cccctgcttg	120
gagccatgat	gctgctggaa	tctcttatag	atccacagcc	tctcagcttc	aaagaacccc	180
cgctcttgct	tggtgttctg	catccaaata	cgaagctgcg	acaggcagaa	aggctgtttg	240
aaaatcaact	tggtggaccg	gagtcctatg	cacatattgg	ggatgtgatg	tttactggga	300
cagcagatgg	cccggctcgt	aaacttgaaa	atggtgaaat	agagaccatt	gcccgggttg	360
gttcggggccc	ttgcaaaacc	cgagatgatg	agcctgtgtg	tgaggagacc	ctgggtatcc	420
gtgcagggcc	caatgggact	ctctttgtgg	ccgatgcata	caagggacta	tttgaagtaa	480
atccctggaa	acgtgaagtg	aaactgctgc	tgtcctccga	gacacccatt	gaggggaaga	540
acatgtcctt	tgtgaatgat	cttacagtca	ctcaggatgg	gaggaagatt	tatttcaccg	600
attctagcag	caaattggca	agacgagact	acctgcttct	ggtgatggag	ggcagacatg	660
acgggcgcct	gctggagtat	gatactgtga	ccagggaagt	aaaagtttta	ttggaccagc	720
tgcggttccc	gaatggagtc	cagctgtctc	ctgcagaaga	ctttgtcctg	gtggcagaaa	780
caaccatggc	caggatacga	agctctttag	tcaagagacg	gtgatgaagt	ttgtgccgcg	840
gtacagcctc	gtcctagaac	tcagcgacag	cgggtgcctc	cggagaagcc	tgcatgatcc	900
cgatgggctg	gtggccacct	acatcaccga	ggtgcacgaa	cacgatgggc	acctgtacct	960
gggctctttc	aggtccccct	tcctctgcag	actcagcctc	caggctgttt	agccctccca	1020
gatagctgcc	cctgccacgc	aggccaggag	tcttcacact	caggcaccag	gccttggcca	1080
ggaggagctg	tggacacagt	cgtggttcaa	gtgtccacat	gcacctgtta	gtccctgaga	1140
ggtggtggga	atggctgctt	cattcctcga	ggatgcccg	gccccacctg	ggcttctctt	1200
tctgtttaga	gggaagtgtg	acatatctgc	catgaggaa	ataaattcat	gtaaagccat	1260
tttctcttaa	acaaaacaaa	actttctaag	tacaatcatt	ctctaggatt	tgggaagctc	1320
cttgcaactg	gaacagggct	caggtgggtg	gagcagtaag	gcactacca	gagagcttgc	1380
tgctgcggcc	ctgtcctgcg	gcctcaaagt	tcttctttac	tatatataac	gtgcggatcat	1440
acctttcttc	ggtgtggtgg	ggatggaaga	gcagagggag	catggcccag	gggtgttgag	1500
gccagcgggtg	agagccgtgt	tagccaagac	atggaactgt	gttctcaagg	gttatgtggg	1560

gcgtgggctc tccatagtgt gtatgaaaag cttgttgact ctagcggctc agagaggact 1620
 ttgctgggtt tctttctgtg aatatctccg tgctgaccat gctggaattg gatgattctg 1680
 caattcggga cctactgcag gggccggtt agtaacgtct tgtctgtgat ctttgttctt 1740
 gacctctaga ccccaagatg tgaacagtgc acgtgttaat gtcattcttg ctcattgtgt 1800
 ataagcccca agttgctgta tatttcaca agtatgtcta cacactggtc atgattttga 1860
 taataaataa cgataaatcg acttctgctg attaaccttt aaaaaaaaaa aaaaaaaaaa 1920
 aaaaaa 1925

<210> 2
 <211> 245
 <212> PRT
 <213> Homo sapiens

<400> 2
 Met Leu Ala Val Ser Leu Thr Val Pro Leu Leu Gly Ala Met Met Leu
 1 5 10 15
 Leu Glu Ser Pro Ile Asp Pro Gln Pro Leu Ser Phe Lys Glu Pro Pro
 20 25 30
 Leu Leu Leu Gly Val Leu His Pro Asn Thr Lys Leu Arg Gln Ala Glu
 35 40 45
 Arg Leu Phe Glu Asn Gln Leu Val Gly Pro Glu Ser Ile Ala His Ile
 50 55 60
 Gly Asp Val Met Phe Thr Gly Thr Ala Asp Gly Pro Val Val Lys Leu
 65 70 75 80
 Glu Asn Gly Glu Ile Glu Thr Ile Ala Arg Phe Gly Ser Gly Pro Cys
 85 90 95
 Lys Thr Arg Asp Asp Glu Pro Val Cys Gly Arg Pro Leu Gly Ile Arg
 100 105 110
 Ala Gly Pro Asn Gly Thr Leu Phe Val Ala Asp Ala Tyr Lys Gly Leu
 115 120 125
 Phe Glu Val Asn Pro Trp Lys Arg Glu Val Lys Leu Leu Leu Ser Ser
 130 135 140
 Glu Thr Pro Ile Glu Gly Lys Asn Met Ser Phe Val Asn Asp Leu Thr
 145 150 155 160
 Val Thr Gln Asp Gly Arg Lys Ile Tyr Phe Thr Asp Ser Ser Ser Lys
 165 170 175
 Trp Gln Arg Arg Asp Tyr Leu Leu Leu Val Met Glu Gly Thr Asp Asp
 180 185 190
 Gly Arg Leu Leu Glu Tyr Asp Thr Val Thr Arg Glu Val Lys Val Leu
 195 200 205
 Leu Asp Gln Leu Arg Phe Pro Asn Gly Val Gln Leu Ser Pro Ala Glu
 210 215 220
 Asp Phe Val Leu Val Ala Glu Thr Thr Met Ala Arg Ile Arg Ser Ser
 225 230 235 240
 Leu Val Lys Arg Arg

<210> 3
 <211> 3508
 <212> DNA
 <213> Homo sapiens

<400> 3
 gagcgaacat ggcagcgcgt tggcgggtttt ggtgtgtctc tgtgaccatg gtggtggcgc 60
 tgctcatcgt ttgcgacgtt ccctcagcct ctgcccagaa aaagaaggag atggtgttat 120
 ctgaaaaggt tagtcagctg atggaatgga ctaacaaaag acctgtaata agaatgaatg 180
 gagacaagtt ccgtcgcctt gtgaaagccc caccgagaaa ttactccgtt atcgtcatgt 240
 tcaactgctc ccaactgcat agacagtgtg tcgtttgcaa gcaagctgat gaagaattcc 300
 agatcctggc aaactcctgg cgatactcca gtgcattcac caacaggata ttttttgcca 360
 tgggtggattt tgatgaaggc tctgatgtat ttcagatgct aaacatgaat tcagctccaa 420
 ctttcatcaa ctttcctgca aaagggaaac ccaaacgggg tgatacatat gagttacagg 480
 tgcgggggttt ttcagactgag cagattgccc ggtggatcgc cgacagaact gatgtcaata 540
 tttagagtgt tagaccccca aattatgctg gtcccttat gttgggattg cttttggctg 600
 ttattgggtg acttgtgtat cttcgaagaa gtaatatgga atttctcttt aataaaactg 660
 gatgggcttt tgcagctttg tgttttgtgc ttgctatgac atctgggtcaa atgtggaacc 720
 atataagagg accaccatat gcccataaga atccccacac gggacatgtg aattatatcc 780
 atggaagcag tcaagcccag tttgtagctg aaacacacat tgttcttctg tttaatggtg 840
 gagttacctt aggaatgggt cttttatgtg aagctgctac ctctgacatg gatattgga 900
 agcgaaagat aatgtgtgtg gctgtgtatt gacttgttgt attattcttc agttggatgc 960
 tctctatttt tagatctaaa tatcatggct acccatacag ctttctgatg agttaaaaag 1020
 gtcccagaga tataatagaca ctggagtact ggaaattgaa aaacgaaaat cgtgtgtgtt 1080
 tgaaaagaag aatgcaactt gtatattttg tattacctct ttttttttca agtgatttaa 1140
 atagttaatc atttaaccaa agaagatgtg tagtgcccta acaagcaatc ctctgtcaaa 1200
 atctgaggta tttgaaaata attatcctct taacctcttc ttcccagtga actttatgga 1260
 acatttaatt tagtacaatt aagtatatta taaaaattgt aaaactacta ctttggttta 1320
 gttagaacaa agctcaaaac tactttagtt aacttggtca tctgatttta tattgcctta 1380
 tccaaagatg gggaaagtaa gtctgacca ggtgttccca catatgcctg ttacagataa 1440
 ctacattagg aattcattct tagctctctc atctttgtgt ggatgtgtat actttacgca 1500
 tctttccttt tgagtagaga aattatgtgt gtcattgtgt cttctgaaaa tggaaacacca 1560
 ttcttcagag cacacgtcta gccctcagca agacagtgtt ttctcctcct cettgcatat 1620
 ttctactga aatacagtgc tgtctatgat tgtttttgtt ttgtgttttt ttgagacgg 1680
 tctcgctgtg tacacacagg ggagattgca gtgagccgag atcacgctac tgcgctcagc 1740
 ctgagtata gagtgagact ctgtctcaaa aaaaagtatc tctaaatata ggattataat 1800
 ttctgcttga gtatgggtgtt aactaccttg tatttagaaa gatttcagat tcattccatc 1860
 tccttagttt tcttttaagg tgacctatct gtgataaaaa tatagcttag tgctaaaatc 1920
 agtgtaactt atacatggcc taaaatgttt ctacaaatta gagtttgtca cttattccat 1980
 ttgtacctaa gaaaaaata tgctcagtta gaaaaggact ccctggccag gcgcagtgac 2040
 ttacgcctgt tatctcagca ctttgggagg ccaaggcagg cagatcacga ggtcaggagt 2100
 tcgagacat cctggccaac atggtgaaac ccgctctcta ctaaaaatat aaaaattagc 2160
 tgggtgtggt ggcaggagcc tgtaatccca gctacacagg aggctgaggc acgagaatca 2220
 cttgaactca gggagatgga ggtttcagtg agccaagatc acaccactgc actccagcct 2280
 ggcaacagag cgagaattcc atctcaaaaa aaaaaaaaaa agtaagaaaa gaaaaggact 2340
 cccttagaat gggaaagaaa aatcataaaa tattgagctg aagcctgtat atagaaatta 2400
 agcgtttctc gaaagctgtt ctatgttctg cgtttattta gtctttatc tcttccttga 2460
 ggtggagaaa caaagtacca atttgaaggg atttttttta ttttgccttt tggtttctgt 2520
 cagtagaat aacctatgt gctaaccaaa tttctgtgaa gaatgttttc atggttatca 2580
 ttatatctaa ctataacctc ccccatagtt atgaagagta acctgaaatg ccactattgt 2640
 ggaaatagga taattgtaat tgtgaaaaaa taattttaag gaaatcttac aagtattaca 2700
 ttaaaaagat actatgactg ccacctgcca tttacctctt aataaccctg ccatgtgggt 2760
 tgcagaaaga gatggatata gtagcctcag aagaaatatt ttatgtgggt tttttgtttt 2820
 tcgttactag atttcttgga tgaggggtta tgggtgacct tttacttttt aatggagcag 2880
 ccagtttttg ttaattactc acttgtaaat tgtgagattc tgaattcctt acctgctatt 2940
 cttgtacttg tctcaggcca aatctatgct gtggttctta tgagacttgt atgaagatgc 3000
 cctgatttgt acagattgac cagggaata ctactgccat gtaatctgta tagttccaga 3060

taatttgtca tgaacattga cagaatgaca attttttgtta tttgcttttt ctccctttaa 3120
 gagcacattc ttctgtaagg agaaaggcag cattctggct aaaatgtgta gaaggtaatt 3180
 tactacactt ataaaatagt gtgacttttg tgaaaatttt gaattagctt tcatatgaag 3240
 tgccttaagt agactcttca tttacttttc tggtaatggt ttaaataatca tttgttatgc 3300
 atttttaaga tacagttcag aatgacacat tgtagtgga aagataacca aatgtctggc 3360
 tgtttgcttt ttgaccatat caataaactt ttacaatctt aaaaaaaaaa aaaaaaaaaa 3420
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 3480
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 3508

<210> 4

<211> 335

<212> PRT

<213> Homo sapiens

<400> 4

Met	Ala	Ala	Arg	Trp	Arg	Phe	Trp	Cys	Val	Ser	Val	Thr	Met	Val	Val
1				5					10					15	
Ala	Leu	Leu	Ile	Val	Cys	Asp	Val	Pro	Ser	Ala	Ser	Ala	Gln	Arg	Lys
	20							25						30	
Lys	Glu	Met	Val	Leu	Ser	Glu	Lys	Val	Ser	Gln	Leu	Met	Glu	Trp	Thr
	35						40					45			
Asn	Lys	Arg	Pro	Val	Ile	Arg	Met	Asn	Gly	Asp	Lys	Phe	Arg	Arg	Leu
	50					55					60				
Val	Lys	Ala	Pro	Pro	Arg	Asn	Tyr	Ser	Val	Ile	Val	Met	Phe	Thr	Ala
	65				70					75					80
Leu	Gln	Leu	His	Arg	Gln	Cys	Val	Val	Cys	Lys	Gln	Ala	Asp	Glu	Glu
			85						90					95	
Phe	Gln	Ile	Leu	Ala	Asn	Ser	Trp	Arg	Tyr	Ser	Ser	Ala	Phe	Thr	Asn
		100						105						110	
Arg	Ile	Phe	Phe	Ala	Met	Val	Asp	Phe	Asp	Glu	Gly	Ser	Asp	Val	Phe
	115						120						125		
Gln	Met	Leu	Asn	Met	Asn	Ser	Ala	Pro	Thr	Phe	Ile	Asn	Phe	Pro	Ala
	130					135						140			
Lys	Gly	Lys	Pro	Lys	Arg	Gly	Asp	Thr	Tyr	Glu	Leu	Gln	Val	Arg	Gly
145				150						155					160
Phe	Ser	Ala	Glu	Gln	Ile	Ala	Arg	Trp	Ile	Ala	Asp	Arg	Thr	Asp	Val
			165						170					175	
Asn	Ile	Arg	Val	Ile	Arg	Pro	Pro	Asn	Tyr	Ala	Gly	Pro	Leu	Met	Leu
		180						185					190		
Gly	Leu	Leu	Leu	Ala	Val	Ile	Gly	Gly	Leu	Val	Tyr	Leu	Arg	Arg	Ser
	195						200						205		
Asn	Met	Glu	Phe	Leu	Phe	Asn	Lys	Thr	Gly	Trp	Ala	Phe	Ala	Ala	Leu
	210					215					220				
Cys	Phe	Val	Leu	Ala	Met	Thr	Ser	Gly	Gln	Met	Trp	Asn	His	Ile	Arg
225					230					235					240

Gly Pro Pro Tyr Ala His Lys Asn Pro His Thr Gly His Val Asn Tyr
 245 250 255

Ile His Gly Ser Ser Gln Ala Gln Phe Val Ala Glu Thr His Ile Val
 260 265 270

Leu Leu Phe Asn Gly Gly Val Thr Leu Gly Met Val Leu Leu Cys Glu
 275 280 285

Ala Ala Thr Ser Asp Met Asp Ile Gly Lys Arg Lys Ile Met Cys Val
 290 295 300

Ala Gly Ile Gly Leu Val Val Leu Phe Phe Ser Trp Met Leu Ser Ile
 305 310 315 320

Phe Arg Ser Lys Tyr His Gly Tyr Pro Tyr Ser Phe Leu Met Ser
 325 330 335

<210> 5
 <211> 1697
 <212> DNA
 <213> Homo sapiens

<400> 5
 ttcaatgaaa acgagggggg cgcgaggag gagcgggcg cgtcgggtggc ggcggcgacg 60
 gcggcgcgga ggcgaaggca gcggcgggcg cagcgaggag ggcgaggccg ggggccgaga 120
 gggcgggagg gcgtagtggc ggcccgtcgg gcgggctgag gcgggcagcc gaagcagtgg 180
 ctctcggagg ggggaacaaag agcagcgact aaggcggcag aggagcggcg gcggtggcgg 240
 cgctgcagca gcggcgggga ctggtatggt ggttccacag ggcagacccc gctgcactca 300
 cagggaggag gagcgggcag cgcgggagga agcgggcgca ccccgagagg catgcccaaa 360
 gaaaaatacg agcccctga ccctcggagg atgtatacaa ttatgtcttc tgaggaagca 420
 gcaaatggaa agaaatccca ctgggcagag cttgaaataa gtggaaaagt aagaagctta 480
 agcgcatctt tgtggtcact aactcacctg acagctttgc atttgagtga caattccctg 540
 tccgaattc cttcagacat tgccaagctt cacaatctgg tgtatttga cctgtcatct 600
 aataaaattc gtagcttacc cgcagaactc ggaaacatgg tatcactcag ggagctccat 660
 ttaataaca acctgttacg agttctacct tttgagctgg gaaaactggt tcagttgcag 720
 actttaggcc tgaaagggtat gacttccata tttgtacttc ttatgggttg tgtatatgtc 780
 tttgaatcta aggaagccaa gaagctttct gctaggggat tcttttaaag actcatttct 840
 cccagactt catcagtttc ttagctatat cgcaatggtt ttatcttctc tgttcagctg 900
 tagactatct actagtcttt gttttctttt tttttgtcc ggacccagcc cttcttttct 960
 agcctctgtt ttaatgaacc ctgtgttctg gtgatacatc cctgaggcta tgctttattt 1020
 catcatgtta taaacagctg ttttcttag attcaaatct caaaaaacat ggagcctctc 1080
 atatagtaca gaaaacagga agtcgaaaat gttgaccatt tgaacctgct gatgatcaag 1140
 atttaagcat atttaaaaaa acttgattta tgaggacttg tgattatagg gccataattg 1200
 atccagcaag aactattagg aaataaatat tttttaagcc aacaatattg aaagttatat 1260
 tttgacagta tgtcaatgcc tataaatttt ttatcatggt aagcagttct tcaccagcct 1320
 tgggtagggtg tgtctagcct actgtacagt tgcttcttca aaaaagtcac tagatgaagt 1380
 cgtaagatt tgcaccctta ggccgggcac agtggctcac acctgtaac aaaaaacttt 1440
 gggaggctga ggtgggtgga tatcttgagg ccaagagttc aagaccagca tgagcaacat 1500
 ggcaaaaccc aatctctacc aaaaatacaa aagtcagctt ggcatggtgg ttcccacctg 1560
 tagtaccacc tacttgggag gctgaggcat gagatttgc tgaacctggg aagcagaggt 1620
 tgaagtgagg tgacattgtg gcattgcact ccagcctggg tgacagagcg agactctgtc 1680
 ttaaaaaaaa aaaaaaa 1697

<210> 6
 <211> 158
 <212> PRT
 <213> Homo sapiens

<400> 6

Met Pro Lys Glu Lys Tyr Glu Pro Pro Asp Pro Arg Arg Met Tyr Thr
1 5 10 15
Ile Met Ser Ser Glu Glu Ala Ala Asn Gly Lys Lys Ser His Trp Ala
20 25 30
Glu Leu Glu Ile Ser Gly Lys Val Arg Ser Leu Ser Ala Ser Leu Trp
35 40 45
Ser Leu Thr His Leu Thr Ala Leu His Leu Ser Asp Asn Ser Leu Ser
50 55 60
Arg Ile Pro Ser Asp Ile Ala Lys Leu His Asn Leu Val Tyr Leu Asp
65 70 75 80
Leu Ser Ser Asn Lys Ile Arg Ser Leu Pro Ala Glu Leu Gly Asn Met
85 90 95
Val Ser Leu Arg Glu Leu His Leu Asn Asn Asn Leu Leu Arg Val Leu
100 105 110
Pro Phe Glu Leu Gly Lys Leu Phe Gln Leu Gln Thr Leu Gly Leu Lys
115 120 125
Gly Met Thr Ser Ile Phe Val Leu Leu Met Val Cys Val Tyr Val Phe
130 135 140
Glu Ser Lys Glu Ala Lys Lys Leu Ser Ala Arg Gly Phe Phe
145 150 155

<210> 7

<211> 1462

<212> DNA

<213> Homo sapiens

<400> 7

gctagccgcc tgggaattta agggaccac actaccttcc cgaagttgaa ggcaagcgggt 60
gattgtttgt agacggcgct ttgtcatggg acctgtgcgg ttgggaatat tgcttttctt 120
ttttttggcc gtgcacgagg cttgggctgg gatgttgaa gagaggacg atgacacaga 180
acgcttgccc agcaaatgag aagtgtgtaa gctgctgagc acagagctac aggcggaact 240
gagtcgcacc ggtcgatctc gagaggtgct ggagctgggg caggtgctgg atacaggcaa 300
gaggaagaga cacgtgcctt acagcgcttc agagacaagg ctggaagagg ccttagagaa 360
tttatgtgag cggatcctgg actatagtgt tcacgctgag cgcaagggt cactgagata 420
tgccaagggt cagagtcaga ccatggcaac actgaaaggc ctagtgcaga agggggtgaa 480
ggtggatctg gggatccctc tggagctttg ggatgagccc agcgtggagg tcacatacct 540
caagaagcag tgtgagacca tgttgaggga gtttgaagac attgtgggag actggtactt 600
ccaccatcag gagcagcccc taaaaattt tctctgtgaa ggtcatgtgc tcccagctgc 660
tgaaactgca tgtctacagg aaacttgagc tggaaaggag atcacagatg gggaagagaa 720
aacagaaggg gaggaagagc agggaggaga ggaggaagag gaggaagagg aagggggaga 780
caagatgacc aagacaggaa gccaccccaa acttgaccga gaagatcttt gacccttgcc 840
tttgagcccc caggagggga agggatcatg gagagccctc taaagcctgc actctccctg 900
ctccacagct ttcagggtgt gtttatgagt gactccaccc aagctttag ctgttctctc 960
ccatctaacc tcaggcaaga tcctggtgaa acagcatgac atggcttctg ggggtggagg 1020
tggggggtgga ggtcctgctc ctagagatga actctatcca gcccttaat tggcagggtgt 1080
atgtgctgac agtactgaaa gctttctctc ttaactgatc ccacccccc ccaaaagtca 1140
gcagtggcac tggagctgtg ggctttgggg aagtcactta gtccttaag gtctgttttt 1200
agacccttcc aaggaagagg ccagaacgga cattctctgc gatctatata cattgcctgt 1260
atccaggagg ctacacacca gcaaacctg aaggagaatg ggacactggg tcatggcctg 1320

gagttgctga taatttaggt gggatagata cttgggtctac ttaagctcaa tgtaacccag 1380
agcccaccat atagttttat aggtgctcaa ttttctatat cgctattaaa cttttttctt 1440
tttttctaaa aaaaaaaaaa aa 1462

<210> 8

<211> 248

<212> PRT

<213> Homo sapiens

<400> 8

Met Gly Pro Val Arg Leu Gly Ile Leu Leu Phe Leu Phe Leu Ala Val
1 5 10 15

His Glu Ala Trp Ala Gly Met Leu Lys Glu Glu Asp Asp Asp Thr Glu
20 25 30

Arg Leu Pro Ser Lys Cys Glu Val Cys Lys Leu Leu Ser Thr Glu Leu
35 40 45

Gln Ala Glu Leu Ser Arg Thr Gly Arg Ser Arg Glu Val Leu Glu Leu
50 55 60

Gly Gln Val Leu Asp Thr Gly Lys Arg Lys Arg His Val Pro Tyr Ser
65 70 75 80

Val Ser Glu Thr Arg Leu Glu Glu Ala Leu Glu Asn Leu Cys Glu Arg
85 90 95

Ile Leu Asp Tyr Ser Val His Ala Glu Arg Lys Gly Ser Leu Arg Tyr
100 105 110

Ala Lys Gly Gln Ser Gln Thr Met Ala Thr Leu Lys Gly Leu Val Gln
115 120 125

Lys Gly Val Lys Val Asp Leu Gly Ile Pro Leu Glu Leu Trp Asp Glu
130 135 140

Pro Ser Val Glu Val Thr Tyr Leu Lys Lys Gln Cys Glu Thr Met Leu
145 150 155 160

Glu Glu Phe Glu Asp Ile Val Gly Asp Trp Tyr Phe His His Gln Glu
165 170 175

Gln Pro Leu Gln Asn Phe Leu Cys Glu Gly His Val Leu Pro Ala Ala
180 185 190

Glu Thr Ala Cys Leu Gln Glu Thr Trp Thr Gly Lys Glu Ile Thr Asp
195 200 205

Gly Glu Glu Lys Thr Glu Gly Glu Glu Glu Gln Glu Glu Glu Glu
210 215 220

Glu Glu Glu Glu Glu Gly Gly Asp Lys Met Thr Lys Thr Gly Ser His
225 230 235 240

Pro Lys Leu Asp Arg Glu Asp Leu
245

<210> 9

<211> 2104

<212> DNA

<213> Homo sapiens

<400> 9

```
ccccttgccg ctccggtgac agtctctgcg gaaagtcacg tktgtgattt cgggagagca 60
cagaacggga cgacggcgct cttgctgggt catctgggcc aggtgacgaa gaaacagttt 120
cctggtgaag cagtcctca cccctagtcg gccacaccc ctagggccta aagatgctga 180
ggctctgatg gaattttctg aaacgccaca aaaagaaatg catcttccctg ggcacgggcc 240
ttggaggagt atatatctg gggaaatatg gacagaagaa aatcagagaa atacaggaaa 300
gggaggctgc agaatacatt gcccaagcac gacgacaata tcattttgaa agtaaccaga 360
ggacttgcaa tatgacagt ctgtccatgc ttccaacact gagagaggcc ttaatgcagc 420
aactgaattc cgagagcctc acagctctgc taaaaaacag gccttcaaac aagctagaaa 480
tatgggagga tctgaagata ataagtttca caagaagtac tgtggctgta tacagtacct 540
gtatgctggt tgttcttttg cgggtccagt taaacataat tgggtgatat atttacctgg 600
ataatgcagc agttggcaaa aatggcacta caattcttgc tccccagat gtccaacagc 660
agtatttctc aagtattcag cacctacttg gagatggcct gacagaattg atcactgtca 720
ttaacaagc tgtgcagaag gttttaggaa gtgtttctct taaacattct ttgtcccttt 780
tggacttggg gcaaaaacta aaagaaatca gaaatctcgt tgagcagcat aagtctctct 840
cttggattaa taaagatgga tccaaacctt tattatgcca ttatatgatg ccagatgaag 900
aaactccatt agcagtgcag gcctgtggac ttctctctcg agacattacc actattaaac 960
ttctcaatga aactagagac atgttggaaa gccagattt tagtacagtt ttgaataacct 1020
gtttaaaccg aggttttagt agacttctag acaatatggc tgagtctctt cgacctactg 1080
aacaggacct gcaacatggt aactctatga atagtcttct cagtgtcagc ctgcctttag 1140
ctaagataat tccaatagta aacggacaga tccattcagt ttgcagtga acacctagtc 1200
atthttgttc ggatctgttg acaatggagc aagtgaagaa ctttgcgtgt aatgtgtatg 1260
aagcttttag taccctcag caactggaga aatgattttt ccttcaagaa aaactacagt 1320
gggattcatt tactttttta aataacttgg gtaaatcacc tatacttaga gtaacagttt 1380
gttatcaaaa tgcctgataa aatatattct taataaaagt cttcatttca taatgaaatc 1440
aattttattg gcatcttaat atattttttt agattcatca acagaccagt ttttgtgggc 1500
atatatatat acacgtgcaa atatcagaat tgtaataat ttgttacaca tggacatttg 1560
ttccaaactg actaaaaatc aatatagata ttttatatac atatatatat ataaaaatac 1620
aaaattcagt gtactttacc atattaatac tgaggaaaaa tctgttggag acataggtct 1680
aggatgtgtg aagtttggaa aaatatgcta ttaattata atgttcccta gactgctgta 1740
aacagaagtg aatcagactt ttctccagct acctttcaaa ataataaatt atttgtctca 1800
aatatacctt gatggaggac ttttttatct ttatggaaat agtgaattcc aacaactatg 1860
atgaactatg ttctttgcta tttcttctact atatttttta aggttttatt aaaaagcctt 1920
agaaagttac atattggttt agaggctaaa attgtgttga tgctgtttac tcacctaatt 1980
acatagtttt aatcatttgt acataatttt aaaaacttac tttgtattga ttttgaatac 2040
agtgaataatc ttattgcaat aaactatttt agtaaaaaaa aaaaaaaaaa aaaaaaaaaa 2100
aaaa 2104
```

<210> 10

<211> 373

<212> PRT

<213> Homo sapiens

<400> 10

Met Leu Arg Ser Val Trp Asn Phe Leu Lys Arg His Lys Lys Lys Cys
1 5 10 15

Ile Phe Leu Gly Thr Val Leu Gly Gly Val Tyr Ile Leu Gly Lys Tyr
20 25 30

Gly Gln Lys Lys Ile Arg Glu Ile Gln Glu Arg Glu Ala Ala Glu Tyr
35 40 45

Ile Ala Gln Ala Arg Arg Gln Tyr His Phe Glu Ser Asn Gln Arg Thr
50 55 60

<210> 11
 <211> 3262
 <212> DNA
 <213> Homo sapiens

<400> 11
 gccaaagatgg agccggcagtg cggcgggtccg ggcccactga tcgtgaacaa caaacagccc 60
 cagccccccgc cactcccgcc gccggcagcc gcacagccac caccgggggc accgggggcc 120
 gccgggggccc tcctgccttg gggcaaagcc cgcgagttca accgcaacca gcgcaaagac 180
 tcagagggct attcggagtc accagacctg gagtttgagt atgctgacac agacaagtgg 240
 gctgcagagc tctcggagct ttacagctac acggaagggc cagaattcct gatgaatcga 300
 aaatgctttg agggaggactt ccggatccat gtgacagaca agaagtggac tgagctggat 360
 accaaccagc accggaccca tgccatgagg ctccctggatg gcttggaagt cactgccagg 420
 gagaagagac tcaaggtggc tcgagcaatt ctctatgttg ctcaaggcac gtttggggag 480
 tgagctcctg aggcagaggt gcagtccttg atgcgctaca acatctttct cctcctggag 540
 gtggggcacgt tcaatgcttt ggtggagctt ctgaacatgg aaatagacaa cagtgccgcc 600
 tgcgacagtg ctgtgaggaa gcctgccatc tccctggctg acagcacaga cctcagggtc 660
 ctgctcaaca tcatgtacct gatagtggag accgttcac aggagtgtga gggtgacaag 720
 gctgagtgga ggaccatgcg gcagacctc agagccgagc tgggctcccc gctgtacaac 780
 aatgagccat ttgcatcat gctgtttggg atggtgacca aattttgcag tggtcacgcc 840
 cctcactttc ccatgaagaa agttctcttg ctgctctgga agacagtatt gtgcacgcta 900
 ggcgggctttg aggagctgca gagcatgaag gctgagaagc gcagcatcct gggcctcccc 960
 ccgcttcctg aggcagcat caaagtgatt cgcaacatga gagcagcctc tccaccagca 1020
 tctgcttcag acttgattga gcagcagcag aaacggggcc gccgagagca caaggctctg 1080
 ataaagcagg acaacctaga tgccttcaac gagcgggac cctacaaggc tgatgactct 1140
 cgagaagagg aagaggagaa tgatgatgac aacagtctgg agggggagac gtttccccctg 1200
 gaacgggatg aagtgatgcc tcccccgcta cagcaccac agactgacag gctgacttgc 1260
 cccaaagggc tcccggtggc tcccaaggtc agagagaaag acattgagat gttccttgag 1320
 tccagccgca gcaaatttat aggttacct ctaggcagtg acacgaacac agtgggtggg 1380
 ctgcccaggc caatccacga aagcatcaag actctgaaac agcacaagta cagctcgatt 1440
 gcagaggtcc aggcacagat ggaggaggaa tacctccgct cccctctctc agggggagaa 1500
 gaagaagtgg agcaagtccc tgcagaaacc ctctaccaag gcttgcctcc cagcctgcct 1560
 cagtatatga ttgccctcct gaagatcctg ttggtgcag caccacaccc aaaagccaaa 1620
 acagactcaa tcaacatcct agcggacgtc ttgcctgagg agatgccac cacagtgttg 1680
 cagagcatga agctgggggt ggtgtgaaac cgcacaaaag aggtcattgt taaggccatt 1740
 tctgctgtcc tgcctgctg gctcaagcac ttttaagttga accatgtcta ccagtttga 1800
 tacatggccc agcacctggt gtttgccaac tgcattcctt tgatcctaaa gttcttcaat 1860
 caaaacatca tgcctacat cactgccaa aacagcattt ctgtcctgga ttaccctcac 1920
 tgcgtggtgc atgagctgcc agagctgacg gcggagagtt tggaagcagg tgacagtaac 1980
 caattttgct ggaggaaect cttttcttgt atcaatctgc ttcggatctt gaacaagctg 2040
 acaaagtggg agcattcaag gacaatgatg ctggtggtgt tcaagtacg cccatcttg 2100
 aagcggggccc taaagggtga acaagccatg atgcagctct atgtgctgaa gctgctcaag 2160
 gtacagacca aatacttggg gcggcagtg cgaagagca acatgaagac catgtctgcc 2220
 atctaccaga aggtgcggca tcggtgaac gacgactggg catacggcaa tgatcttgat 2280
 gcccgccctt gggaactcca ggagaggag tgtgcccttc gtgccaacat tgaacgcttc 2340
 aacgcccggc gctatgaccg ggcccacagc aaccctgact tctgccagt ggacaactgc 2400
 ctgcagagtg tcctgggcca acgggtggac ctccctgagg actttcagat gaactatgac 2460
 ctctggttag aaagggaggt cttctccaag cccatttcct gggaagagct gctgcagtga 2520
 ggctgttggt taggggactg aaatggagag aaaagatgat ctgaaggtac ctgtgggact 2580
 gtcctagttc attgctgag tgcctccatc cccaccagg tggcagcaca gcccactgt 2640
 gtcttccgca gtctgtcctg ggcttgggtg agcccagctt gacctccctc tggttcccag 2700
 ggtcctgctc cgaagcagtc atctctgcct gagatccatt cttcctttac ttccccacc 2760
 ctccctctct ggatatggtt ggttttggct catttcacaa tcagcccaag gctgggaaag 2820
 ctggaatggg atgggaacc ctcgcccgtg catctgaatt tcagggggtca tgctgatgcc 2880
 tctcgagaca tacaaatcct tgctttgtca gcttgcaaa gagagagtt taggattagg 2940
 gccagggcca gaaagtccgt atcttgggtg tgcctctggg tgggggtggg gtgtttctga 3000
 tgttattcca gcctcctgct acattatatc cagaagtaat tgcggaggct ccttcagctg 3060
 cctcagcact ttgattttgg acagggacaa ggtaggaaga gaagcttccc ttaaccagag 3120
 gggccatttt tccttttggc ttctgagggc ctgtaaatat ctatatataa ttctgtgtgt 3180

attctgtgtc atgttgggggt ttttaatgtg attgtgtatt ctgtttacat taaaaagaag 3240
caaaaataaa aaaaaaaaaa aa 3262

<210> 12
<211> 837
<212> PRT
<213> Homo sapiens

<400> 12

Met	Glu	Pro	Ala	Val	Gly	Gly	Pro	Gly	Pro	Leu	Ile	Val	Asn	Asn	Lys
1				5					10					15	
Gln	Pro	Gln	Pro	Pro	Pro	Pro	Pro	Pro	Pro	Ala	Ala	Ala	Gln	Pro	Pro
			20					25					30		
Pro	Gly	Ala	Pro	Arg	Ala	Ala	Ala	Gly	Leu	Leu	Pro	Gly	Gly	Lys	Ala
	35						40					45			
Arg	Glu	Phe	Asn	Arg	Asn	Gln	Arg	Lys	Asp	Ser	Glu	Gly	Tyr	Ser	Glu
	50					55					60				
Ser	Pro	Asp	Leu	Glu	Phe	Glu	Tyr	Ala	Asp	Thr	Asp	Lys	Trp	Ala	Ala
65					70				75					80	
Glu	Leu	Ser	Glu	Leu	Tyr	Ser	Tyr	Thr	Glu	Gly	Pro	Glu	Phe	Leu	Met
			85						90					95	
Asn	Arg	Lys	Cys	Phe	Glu	Glu	Asp	Phe	Arg	Ile	His	Val	Thr	Asp	Lys
		100						105					110		
Lys	Trp	Thr	Glu	Leu	Asp	Thr	Asn	Gln	His	Arg	Thr	His	Ala	Met	Arg
	115						120					125			
Leu	Leu	Asp	Gly	Leu	Glu	Val	Thr	Ala	Arg	Glu	Lys	Arg	Leu	Lys	Val
	130					135					140				
Ala	Arg	Ala	Ile	Leu	Tyr	Val	Ala	Gln	Gly	Thr	Phe	Gly	Glu	Cys	Ser
145				150					155					160	
Ser	Glu	Ala	Glu	Val	Gln	Ser	Trp	Met	Arg	Tyr	Asn	Ile	Phe	Leu	Leu
			165					170					175		
Leu	Glu	Val	Gly	Thr	Phe	Asn	Ala	Leu	Val	Glu	Leu	Leu	Asn	Met	Glu
	180						185						190		
Ile	Asp	Asn	Ser	Ala	Ala	Cys	Ser	Ser	Ala	Val	Arg	Lys	Pro	Ala	Ile
	195					200					205				
Ser	Leu	Ala	Asp	Ser	Thr	Asp	Leu	Arg	Val	Leu	Leu	Asn	Ile	Met	Tyr
	210				215					220					
Leu	Ile	Val	Glu	Thr	Val	His	Gln	Glu	Cys	Glu	Gly	Asp	Lys	Ala	Glu
225				230				235						240	
Trp	Arg	Thr	Met	Arg	Gln	Thr	Phe	Arg	Ala	Glu	Leu	Gly	Ser	Pro	Leu
			245				250						255		
Tyr	Asn	Asn	Glu	Pro	Phe	Ala	Ile	Met	Leu	Phe	Gly	Met	Val	Thr	Lys
	260						265					270			

Phe Cys Ser Gly His Ala Pro His Phe Pro Met Lys Lys Val Leu Leu
 275 280 285
 Leu Leu Trp Lys Thr Val Leu Cys Thr Leu Gly Gly Phe Glu Glu Leu
 290 295 300
 Gln Ser Met Lys Ala Glu Lys Arg Ser Ile Leu Gly Leu Pro Pro Leu
 305 310 315 320
 Pro Glu Asp Ser Ile Lys Val Ile Arg Asn Met Arg Ala Ala Ser Pro
 325 330 335
 Pro Ala Ser Ala Ser Asp Leu Ile Glu Gln Gln Gln Lys Arg Gly Arg
 340 345 350
 Arg Glu His Lys Ala Leu Ile Lys Gln Asp Asn Leu Asp Ala Phe Asn
 355 360 365
 Glu Arg Asp Pro Tyr Lys Ala Asp Asp Ser Arg Glu Glu Glu Glu Glu
 370 375 380
 Asn Asp Asp Asp Asn Ser Leu Glu Gly Glu Thr Phe Pro Leu Glu Arg
 385 390 395 400
 Asp Glu Val Met Pro Pro Pro Leu Gln His Pro Gln Thr Asp Arg Leu
 405 410 415
 Thr Cys Pro Lys Gly Leu Pro Trp Ala Pro Lys Val Arg Glu Lys Asp
 420 425 430
 Ile Glu Met Phe Leu Glu Ser Ser Arg Ser Lys Phe Ile Gly Tyr Thr
 435 440 445
 Leu Gly Ser Asp Thr Asn Thr Val Val Gly Leu Pro Arg Pro Ile His
 450 455 460
 Glu Ser Ile Lys Thr Leu Lys Gln His Lys Tyr Thr Ser Ile Ala Glu
 465 470 475 480
 Val Gln Ala Gln Met Glu Glu Glu Tyr Leu Arg Ser Pro Leu Ser Gly
 485 490 495
 Gly Glu Glu Glu Val Glu Gln Val Pro Ala Glu Thr Leu Tyr Gln Gly
 500 505 510
 Leu Leu Pro Ser Leu Pro Gln Tyr Met Ile Ala Leu Leu Lys Ile Leu
 515 520 525
 Leu Ala Ala Ala Pro Thr Ser Lys Ala Lys Thr Asp Ser Ile Asn Ile
 530 535 540
 Leu Ala Asp Val Leu Pro Glu Glu Met Pro Thr Thr Val Leu Gln Ser
 545 550 555 560
 Met Lys Leu Gly Val Asp Val Asn Arg His Lys Glu Val Ile Val Lys
 565 570 575
 Ala Ile Ser Ala Val Leu Leu Leu Leu Lys His Phe Lys Leu Asn
 580 585 590

His Val Tyr Gln Phe Glu Tyr Met Ala Gln His Leu Val Phe Ala Asn
595 600 605

Cys Ile Pro Leu Ile Leu Lys Phe Phe Asn Gln Asn Ile Met Ser Tyr
610 615 620

Ile Thr Ala Lys Asn Ser Ile Ser Val Leu Asp Tyr Pro His Cys Val
625 630 635 640

Val His Glu Leu Pro Glu Leu Thr Ala Glu Ser Leu Glu Ala Gly Asp
645 650 655

Ser Asn Gln Phe Cys Trp Arg Asn Leu Phe Ser Cys Ile Asn Leu Leu
660 665 670

Arg Ile Leu Asn Lys Leu Thr Lys Trp Lys His Ser Arg Thr Met Met
675 680 685

Leu Val Val Phe Lys Ser Ala Pro Ile Leu Lys Arg Ala Leu Lys Val
690 695 700

Lys Gln Ala Met Met Gln Leu Tyr Val Leu Lys Leu Leu Lys Val Gln
705 710 715 720

Thr Lys Tyr Leu Gly Arg Gln Trp Arg Lys Ser Asn Met Lys Thr Met
725 730 735

Ser Ala Ile Tyr Gln Lys Val Arg His Arg Leu Asn Asp Asp Trp Ala
740 745 750

Tyr Gly Asn Asp Leu Asp Ala Arg Pro Trp Asp Phe Gln Ala Glu Glu
755 760 765

Cys Ala Leu Arg Ala Asn Ile Glu Arg Phe Asn Ala Arg Arg Tyr Asp
770 775 780

Arg Ala His Ser Asn Pro Asp Phe Leu Pro Val Asp Asn Cys Leu Gln
785 790 795 800

Ser Val Leu Gly Gln Arg Val Asp Leu Pro Glu Asp Phe Gln Met Asn
805 810 815

Tyr Asp Leu Trp Leu Glu Arg Glu Val Phe Ser Lys Pro Ile Ser Trp
820 825 830

Glu Glu Leu Leu Gln
835

<210> 13

<211> 1264

<212> DNA

<213> Homo sapiens

<400> 13

cttgaacgca cctcaggatg gcccgactt tggaaccact agcaaagaag atctttaaag 60
gagttttggt agccgaactt gtaggcgttt ttggagcata ttttttgttt agcaagatgc 120
acacaagcca agatttcagg caaacaatga gcaagaaata tcccttcac ttggaagttt 180
attacaaatc cactgagaag tctggaatgt atggaatcag agagctagat caaaaaacat 240
ggttgaacag caaaaattag atgtaaggaa gatctgcatt caaatgtgag tgggcaccat 300

```

ccaatctgct ggggccctgg agagaacaaa acaaagaggc aaacatgttg atctgctgtg 360
ctgaggagga aaatggcgga taaggggaca ggactaacgt gcagctccca catggatgga 420
cagaacagcg tgtggcaacg tgtttagtct ccttaaaagg atttcaactct gtcaccagc 480
ctggagtgca gtggcgtaat ctgggtcac ggcaacctct gactcctgga ttcaggcgat 540
tctcgtgcct ctgcttctcg agtagctggg actacagggt cgtgccacca tgcccagctc 600
atTTTTTggg gTTTTTtagt gagacagggt ttcaccgtgt tggccaggct ggtctcgaac 660
tcttgacctc aaacaatctt cctgcctcgg cctgccgagg tgctgggatt acagggtgtga 720
gccacagcgc ctggcccaaa atatttctta atcttccact gtgatttgca tgatattctt 780
agctaagtga ttttttaaaa ctaaggccac ttctccact aatgttccat ggtctattaa 840
cacatagtag tagattattt tacaaagagt caacaaaaca aattaccaat cagctcttca 900
aattcttcat catccacgtc ttctatactt tcttcatctg catcccgttt ttgtttctct 960
ttaacagcaa cTTTTTTata atacctataa tattcatgtt atatatTTga caattttatt 1020
aaaggTctaa tcttactata tatcatcaaa gcacctatga ccagtggcaa accacaactg 1080
taaaatctta agtatactca attggaaata aatgactgaa atttgtatct aatatacaaa 1140
aaatagttta actcaataaa aagtagctgg aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1200
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1264
aaaa

```

```

<210> 14
<211> 80
<212> PRT
<213> Homo sapiens

```

```

<400> 14
Met Ala Arg Thr Leu Glu Pro Leu Ala Lys Lys Ile Phe Lys Gly Val
  1             5             10            15

Leu Val Ala Glu Leu Val Gly Val Phe Gly Ala Tyr Phe Leu Phe Ser
  20             25            30

Lys Met His Thr Ser Gln Asp Phe Arg Gln Thr Met Ser Lys Lys Tyr
  35             40            45

Pro Phe Ile Leu Glu Val Tyr Tyr Lys Ser Thr Glu Lys Ser Gly Met
  50             55            60

Tyr Gly Ile Arg Glu Leu Asp Gln Lys Thr Trp Leu Asn Ser Lys Asn
  65             70            75            80

```

```

<210> 15
<211> 2671
<212> DNA
<213> Homo sapiens

```

```

<400> 15
ccgtacacgc gcgctgcggc atggcggccc accgccccgg cccgctcaag cagcagaata 60
aagctcataa aggcggacgc catcggggtc ggggatctgc acagcgggac ggcaagggcc 120
gtctggcact gaaaacccta agcaagaagg tgagaaaaga actcagcaga gtcgaccaga 180
ggcatcgcgc cagccagctc cgaaagcaga agaaggaggc ggttctggca gagaagagac 240
agctgggtgg caaggatggc cctcctcacc aggtactggg ggtgcccctg cacagcagaa 300
tttccctgcc agaggccatg cagctgcttc aagataggga cactggaaca gtacacttga 360
atgaattggg aaacaccagc aactttatgc tgctgtgccc ccgcttgaaa catctgtggt 420
ttttcacctc agcaaggcca ggggatctgc acgttggtt agacatggct aaagtagctg 480
ataccatcct gttcctcctt gatccactag aaggctggga cagcaccgtg gattactgtc 540
tttctgcct ctttgctcag ggccttccga cctatacact agctgtccag gggatttctg 600
gcctccact gaagaaacaa atagatacca ggaagaagct aagtaaagca gtggagaagc 660
gctttccgca tgacaaactc ctcttgtag acactcaaca ggaggcagg atgctgctta 720
ggcagtggtg taaccagaag caacagcacc ttgcttttcg agatcggcgg gctacacct 780
ttgcccatgc tgttgatttt gttcctagtg aagagaataa cttggtgggc accttgaaaa 840

```

```

tttcaggcta tgttcgaggg cagactctga atgtcaatag gttgctgcat atcgttggat 900
atggtgattt gccagatgaa cagatagatg cccccggaga cctttccct ttaaactcta 960
gaggaattaa accccaaaag gaccagaca tggcaatgga gatttgctgct acggatgctg 1020
tagatgatat ggaagaaggt cttaaagtcc taatgaaggc agaccctggt agacaggaat 1080
ccttgcaagc agaggttatc ccagatccaa tggagggaga gcaaacctgg cccactgagg 1140
aggagctgag cgaggcaaaag gatttcttga aggaaagtcc taagggtgga aagaaggtcc 1200
ccaaaggaac atccagttac caagctgaat ggattttgga tgggtggcagc caaagtgggtg 1260
gggaaggaga tgaatatgaa tatgatgata tggaaacatga ggattttatg gaggaggaat 1320
ctcaggatga gtagtagtaa gaagaggaag aatatgaaac tatgactatt ggggagtctg 1380
tgcattgatga tctgtatgat aagaaagtag atgaagaagc tgaggcaaaa atgttggaga 1440
aatataaaca agaagactg gaagagatgt ttccagatga agtggacacg ccccgatgatg 1500
tggctgctcg aattcgattt cagaaataca gaggccttaa gagcttccg acatctccat 1560
gggatcctaa ggaacacctt cctcaagatt atgctcgaat atttcagttt cagaacttta 1620
ctaacactag gaaaagcatc tttaaagagg ttgaagaaaa agaggttgaa ggagctgagg 1680
ttggctggta tgtcacactt catgtctctg aagtcctcgt ctcatgtggtc gtagtcttca 1740
ggcaaggaac acccttgatt gcattttctt tactacctca tgaacagaag atgtcagtat 1800
tgaatatggt ggtgaggcgt gaccctggca acactgaacc tgtgaaagcc aagggaagagc 1860
tcataattca ctgtggattc aggcgcttcc gagcctcacc tttattctct cagcacactg 1920
cagcggacaa acataaattg cagagattcc tgactgctga catggccctg gtggcgacag 1980
tctatcgccc aatcaacttt cctcctgcat ctgtgctgct tttcaagcaa aaaagcaatg 2040
gaatgcacag cctcattgct acaggccatc ttatgtcagt agatccagac agaattggtca 2100
tcaagagagt tgttctgagt ggtcatcctt tcaaaatttt tactaagatg gcagtagtac 2160
gttacatggt cttcaacaga gaggatgtgc tgtggtttaa accagtggaa ctgagaacga 2220
agtggggcgc gagaggacat atcaaggaac ctttaggtac ccattggccac atgaaatgca 2280
gctttgatgg gaagctaaaa tctcaagaca cagtactgat gaacctgtat aaacgagtct 2340
tccccaaatg gacttatgat ccatatgtac cagaaccagt accctggctg aaaagtgaga 2400
tttcttcaac agtgcctcaa gggggcatgg agtaatggat tcaaagagat tctgtcttac 2460
cggtgccagt cagtactcca gggatgggag gcacaagttg tgattgggca aagtttattt 2520
tctatgtcag cctgtcagtc cactgcccc ttttgcaaga ctttttttta gccttgacaa 2580
aatgtctcag ttaagtataa aagtttttcc actacttagt ccaaaaaaaa ctattaaatc 2640
ttaatgaaat aaaaaaaaaa aaaaaaaaaa a 2671

```

<210> 16

<211> 804

<212> PRT

<213> Homo sapiens

<400> 16

Met Ala Ala His Arg Pro Gly Pro Leu Lys Gln Gln Asn Lys Ala His
1 5 10 15

Lys Gly Gly Arg His Arg Gly Arg Gly Ser Ala Gln Arg Asp Gly Lys
20 25 30

Gly Arg Leu Ala Leu Lys Thr Leu Ser Lys Lys Val Arg Lys Glu Leu
35 40 45

Ser Arg Val Asp Gln Arg His Arg Ala Ser Gln Leu Arg Lys Gln Lys
50 55 60

Lys Glu Ala Val Leu Ala Glu Lys Arg Gln Leu Gly Gly Lys Asp Gly
65 70 75 80

Pro Pro His Gln Val Leu Val Val Pro Leu His Ser Arg Ile Ser Leu
85 90 95

Pro Glu Ala Met Gln Leu Leu Gln Asp Arg Asp Thr Gly Thr Val His
100 105 110

Leu Asn Glu Leu Gly Asn Thr Gln Asn Phe Met Leu Leu Cys Pro Arg

115	120	125
Leu Lys His Leu Trp Phe Phe Thr Ser Ala Arg Pro Gly Asp Leu His		
130	135	140
Val Val Leu Asp Met Ala Lys Val Ala Asp Thr Ile Leu Phe Leu Leu		
145	150	155 160
Asp Pro Leu Glu Gly Trp Asp Ser Thr Arg Asp Tyr Cys Leu Ser Cys		
	165 170	175
Leu Phe Ala Gln Gly Leu Pro Thr Tyr Thr Leu Ala Val Gln Gly Ile		
	180 185	190
Ser Gly Leu Pro Leu Lys Lys Gln Ile Asp Thr Arg Lys Lys Leu Ser		
	195 200	205
Lys Ala Val Glu Lys Arg Phe Pro His Asp Lys Leu Leu Leu Leu Asp		
	210 215	220
Thr Gln Gln Glu Ala Gly Met Leu Leu Arg Gln Leu Ala Asn Gln Lys		
225	230	235 240
Gln Gln His Leu Ala Phe Arg Asp Arg Arg Ala Tyr Leu Phe Ala His		
	245	250 255
Ala Val Asp Phe Val Pro Ser Glu Glu Asn Asn Leu Val Gly Thr Leu		
	260 265	270
Lys Ile Ser Gly Tyr Val Arg Gly Gln Thr Leu Asn Val Asn Arg Leu		
	275 280	285
Leu His Ile Val Gly Tyr Gly Asp Leu Pro Asp Glu Gln Ile Asp Ala		
	290 295	300
Pro Gly Asp Pro Phe Pro Leu Asn Pro Arg Gly Ile Lys Pro Gln Lys		
305	310	315 320
Asp Pro Asp Met Ala Met Glu Ile Cys Ala Thr Asp Ala Val Asp Asp		
	325	330 335
Met Glu Glu Gly Leu Lys Val Leu Met Lys Ala Asp Pro Gly Arg Gln		
	340 345	350
Glu Ser Leu Gln Ala Glu Val Ile Pro Asp Pro Met Glu Gly Glu Gln		
	355 360	365
Thr Trp Pro Thr Glu Glu Glu Leu Ser Glu Ala Lys Asp Phe Leu Lys		
	370 375	380
Glu Ser Ser Lys Val Val Lys Lys Val Pro Lys Gly Thr Ser Ser Tyr		
385	390	395 400
Gln Ala Glu Trp Ile Leu Asp Gly Gly Ser Gln Ser Gly Gly Glu Gly		
	405	410 415
Asp Glu Tyr Glu Tyr Asp Asp Met Glu His Glu Asp Phe Met Glu Glu		
	420	425 430
Glu Ser Gln Asp Glu Ser Ser Glu Glu Glu Glu Tyr Glu Thr Met		

435	440	445
Thr Ile Gly Glu Ser Val His Asp Asp Leu Tyr Asp Lys Lys Val Asp		
450	455	460
Glu Glu Ala Glu Ala Lys Met Leu Glu Lys Tyr Lys Gln Glu Arg Leu		
465	470	475
Glu Glu Met Phe Pro Asp Glu Val Asp Thr Pro Arg Asp Val Ala Ala		
	485	490
Arg Ile Arg Phe Gln Lys Tyr Arg Gly Leu Lys Ser Phe Arg Thr Ser		
	500	505
Pro Trp Asp Pro Lys Glu Asn Leu Pro Gln Asp Tyr Ala Arg Ile Phe		
	515	520
Gln Phe Gln Asn Phe Thr Asn Thr Arg Lys Ser Ile Phe Lys Glu Val		
	530	535
Glu Glu Lys Glu Val Glu Gly Ala Glu Val Gly Trp Tyr Val Thr Leu		
545	550	555
His Val Ser Glu Val Pro Val Ser Val Val Glu Cys Phe Arg Gln Gly		
	565	570
Thr Pro Leu Ile Ala Phe Ser Leu Leu Pro His Glu Gln Lys Met Ser		
	580	585
Val Leu Asn Met Val Val Arg Arg Asp Pro Gly Asn Thr Glu Pro Val		
	595	600
Lys Ala Lys Glu Glu Leu Ile Phe His Cys Gly Phe Arg Arg Phe Arg		
610	615	620
Ala Ser Pro Leu Phe Ser Gln His Thr Ala Ala Asp Lys His Lys Leu		
625	630	635
Gln Arg Phe Leu Thr Ala Asp Met Ala Leu Val Ala Thr Val Tyr Ala		
	645	650
Pro Ile Thr Phe Pro Pro Ala Ser Val Leu Leu Phe Lys Gln Lys Ser		
	660	665
Asn Gly Met His Ser Leu Ile Ala Thr Gly His Leu Met Ser Val Asp		
	675	680
Pro Asp Arg Met Val Ile Lys Arg Val Val Leu Ser Gly His Pro Phe		
	690	695
Lys Ile Phe Thr Lys Met Ala Val Val Arg Tyr Met Phe Phe Asn Arg		
705	710	715
Glu Asp Val Leu Trp Phe Lys Pro Val Glu Leu Arg Thr Lys Trp Gly		
	725	730
Arg Arg Gly His Ile Lys Glu Pro Leu Gly Thr His Gly His Met Lys		
	740	745
Cys Ser Phe Asp Gly Lys Leu Lys Ser Gln Asp Thr Val Leu Met Asn		

755

760

765

Leu Tyr Lys Arg Val Phe Pro Lys Trp Thr Tyr Asp Pro Tyr Val Pro
 770 775 780

Glu Pro Val Pro Trp Leu Lys Ser Glu Ile Ser Ser Thr Val Pro Gln
 785 790 795 800

Gly Gly Met Glu

<210> 17

<211> 2321

<212> DNA

<213> Homo sapiens

<400> 17

ccgaccttgg aatcagaagc ctggggctcc tctagggagt ggctggcccc ccgggaggcc 60
 agaggaggcc catcgctgtc ttctgtgtcg aacgagctgc ccagtgtgtc cacccttcgg 120
 taccgagacc ctgggggtgt gccttggggg gcgctggagg aggaggagga ggatggagga 180
 aggagcagaa aggccttcac agaagtcacc cagacagagc tgcaggacce tcacccttcc 240
 cgggaactgc cctggcccat gcaggccaga cgggcataca ggcaaagaaa tgccagcagg 300
 gaccaggtgg tctatggctc tggaaactaag acggaccgat gggcgcggtc acttcggagg 360
 tccaaggaga aaacaaagga aggcttgcca agctgcagcc ctgggcgtgg aactgaaga 420
 ggatcggggg ccagtttggc gccggcacgg agtcctactt ctccctgtgt cgcttctctg 480
 tccttcttaa cgtgtgtggc tctgtgtcca tggcctgcat gacgtgtgtc cccacctggt 540
 tgggaggcgc tccccaggc cctccccggc ccgacatctc ctgcctctgc ggctcctata 600
 acccccactc ccagggcctg gtcaccttgc ccaccagct cttcaacttg ctctcgggtg 660
 agggttacct ggaatgttgc cctctcttct atggcttcta cagccccgc ccacgcctgg 720
 cggtcacctc cctgtgtgtg gcctttgccc ttggcctcat ctgcctctgt ctcactctgc 780
 atcgctcggg gtctgggctg aagcagacac tgcctggcga gtccgaggct ctgaccagct 840
 acagccaccg ggtgttctcg gcctgggact tgggtctctg cggggacgtc cactgtcggc 900
 tgcgccagcg catcatcttg tacgaattaa aggtggagct ggaggagaca gtggtgccc 960
 gccaggctgc ggtgcggacg ctgggccagc aagccagggt ttggttggtg cgggtgtgtc 1020
 tcaacctgct ggtggtcgcg ctctggggg cagccttcta tggcgcttac tgggctacgg 1080
 ggtgcaccgt ggagctgcag gagatgcccc ttgtccagga gttgccactg ctgaagcttg 1140
 ggggtgaatta ccttccgtcc atcttcatcg ctggggtcaa tttgtgtgtc ccgcccgtgt 1200
 tcaagctcat tgcctcactg gagggttaca ctcgagctcg ccagatcggt ttatcctctg 1260
 tcaggaccgt gtttcttctc ctgcctcccc tgggtgtcct gctcttctct ctctggaatc 1320
 agatcacttg tgggggagc tccgaggctg aggactgcaa aacctgtggc tacaattaca 1380
 aacaacttcc gtgtgggag actgtcctgg gccaggaaat gtacaaactt ctgctctttg 1440
 atctgtgtac tgtcttggca gtgcgctgc tcatccagtt tcctagaaag ctctctgtgt 1500
 gcctctgtcc tggggcgctg ggtcttcttg cggggaccca ggagttccag gtgcccagc 1560
 aggtgtgtgg gctcatctac gcgcagacgg tggctgtggg ggggagtttt ttctgcccct 1620
 tactgccctt gcttaacacg gtcaagttcc tgcgtctttt ctacctgaag aagcttacc 1680
 tcttctccac ctgctccccg gctgcccga ccttccgggc ctccgcggtg aatttctttt 1740
 tccccctggt ccttctcctg ggtctggcca tctccagcgt tccccctgt tacagcatct 1800
 tcctgatccc gccttctaag ctgtgtggtc cattccgggg gcagtcgtcc atctggggcc 1860
 agatccctga gtctatttcc agcctccctg agaccacca gaatttctc ttcttctctg 1920
 ggaccaggc ttttgtgtgt ccccttctgc tgatctccag catcctgatg gcgtacctg 1980
 tggctctggc taactcctac ggaagcctca tctctgagct caaacgtcag agagagacgg 2040
 aggcgcagaa taaagtcttc ctggcacggc gcgctgtggc gctgacctcc accaaaccg 2100
 ctctttgacc cccgcagccc acgtcccgtt ttcagacccc agggccattg taagcctagg 2160
 tcacaacatc tgtaaaactg gagaactgga gaagactcca cggccttcca gctttggtat 2220
 ctggagattt ccaggggccc tcgcccacac gtcctgact ctcggtgat ctctcttcta 2280
 tcaataaata cagccgaggt tgcaaaaaaa aaaaaaaaaa a 2321

<210> 18

<211> 589

<212> PRT

<213> Homo sapiens

<400> 18

Met Gly Ala Ala Thr Ser Glu Val Gln Gly Glu Asn Lys Gly Arg Leu
1 5 10 15

Ala Lys Leu Gln Pro Trp Ala Trp Thr Leu Lys Arg Ile Gly Gly Gln
20 25 30

Phe Gly Ala Gly Thr Glu Ser Tyr Phe Ser Leu Leu Arg Phe Leu Leu
35 40 45

Leu Leu Asn Val Leu Ala Ser Val Leu Met Ala Cys Met Thr Leu Leu
50 55 60

Pro Thr Trp Leu Gly Gly Ala Pro Pro Gly Pro Pro Gly Pro Asp Ile
65 70 75 80

Ser Ser Pro Cys Gly Ser Tyr Asn Pro His Ser Gln Gly Leu Val Thr
85 90 95

Phe Ala Thr Gln Leu Phe Asn Leu Leu Ser Gly Glu Gly Tyr Leu Glu
100 105 110

Trp Ser Pro Leu Phe Tyr Gly Phe Tyr Thr Pro Arg Pro Arg Leu Ala
115 120 125

Val Thr Tyr Leu Cys Trp Ala Phe Ala Val Gly Leu Ile Cys Leu Leu
130 135 140

Leu Ile Leu His Arg Ser Val Ser Gly Leu Lys Gln Thr Leu Leu Ala
145 150 155 160

Glu Ser Glu Ala Leu Thr Ser Tyr Ser His Arg Val Phe Ser Ala Trp
165 170 175

Asp Phe Gly Leu Cys Gly Asp Val His Val Arg Leu Arg Gln Arg Ile
180 185 190

Ile Leu Tyr Glu Leu Lys Val Glu Leu Glu Glu Thr Val Val Arg Arg
195 200 205

Gln Ala Ala Val Arg Thr Leu Gly Gln Gln Ala Arg Val Trp Leu Val
210 215 220

Arg Val Leu Leu Asn Leu Leu Val Val Ala Leu Leu Gly Ala Ala Phe
225 230 235 240

Tyr Gly Val Tyr Trp Ala Thr Gly Cys Thr Val Glu Leu Gln Glu Met
245 250 255

Pro Leu Val Gln Glu Leu Pro Leu Leu Lys Leu Gly Val Asn Tyr Leu
260 265 270

Pro Ser Ile Phe Ile Ala Gly Val Asn Phe Val Leu Pro Pro Val Phe
275 280 285

Lys Leu Ile Ala Pro Leu Glu Gly Tyr Thr Arg Ser Arg Gln Ile Val
290 295 300

Phe Ile Leu Leu Arg Thr Val Phe Leu Arg Leu Ala Ser Leu Val Val
 305 310 315 320
 Leu Leu Phe Ser Leu Trp Asn Gln Ile Thr Cys Gly Gly Asp Ser Glu
 325 330 335
 Ala Glu Asp Cys Lys Thr Cys Gly Tyr Asn Tyr Lys Gln Leu Pro Cys
 340 345 350
 Trp Glu Thr Val Leu Gly Gln Glu Met Tyr Lys Leu Leu Leu Phe Asp
 355 360 365
 Leu Leu Thr Val Leu Ala Val Ala Leu Leu Ile Gln Phe Pro Arg Lys
 370 375 380
 Leu Leu Cys Gly Leu Cys Pro Gly Ala Leu Gly Leu Leu Ala Gly Thr
 385 390 395 400
 Gln Glu Phe Gln Val Pro Asp Glu Val Leu Gly Leu Ile Tyr Ala Gln
 405 410 415
 Thr Val Val Trp Val Gly Ser Phe Phe Cys Pro Leu Leu Pro Leu Leu
 420 425 430
 Asn Thr Val Lys Phe Leu Leu Leu Phe Tyr Leu Lys Lys Leu Thr Leu
 435 440 445
 Phe Ser Thr Cys Ser Pro Ala Ala Arg Thr Phe Arg Ala Ser Ala Ala
 450 455 460
 Asn Phe Phe Phe Pro Leu Val Leu Leu Leu Gly Leu Ala Ile Ser Ser
 465 470 475 480
 Val Pro Leu Leu Tyr Ser Ile Phe Leu Ile Pro Pro Ser Lys Leu Cys
 485 490 495
 Gly Pro Phe Arg Gly Gln Ser Ser Ile Trp Ala Gln Ile Pro Glu Ser
 500 505 510
 Ile Ser Ser Leu Pro Glu Thr Thr Gln Asn Phe Leu Phe Phe Leu Gly
 515 520 525
 Thr Gln Ala Phe Ala Val Pro Leu Leu Leu Ile Ser Ser Ile Leu Met
 530 535 540
 Ala Tyr Thr Val Ala Leu Ala Asn Ser Tyr Gly Arg Leu Ile Ser Glu
 545 550 555 560
 Leu Lys Arg Gln Arg Glu Thr Glu Ala Gln Asn Lys Val Phe Leu Ala
 565 570 575
 Arg Arg Ala Val Ala Leu Thr Ser Thr Lys Pro Ala Leu
 580 585

<210> 19
 <211> 5263
 <212> DNA
 <213> Homo sapiens

<220>
 <221> unsure
 <222> (848)

<220>
 <221> unsure
 <222> (1060)

<220>
 <221> unsure
 <222> (1248)

<220>
 <221> unsure
 <222> (1377)

<220>
 <221> unsure
 <222> (2310)

<220>
 <221> unsure
 <222> (2319)

<220>
 <221> unsure
 <222> (2839)

<400> 19
 agtgaagga gcaggcgctt gagctcgagc gacggcgctg gcggagacgc cggctgctcc 60
 tcccctcccc gccggtatta atctctggag aagacacatc cacagttagc actttcttca 120
 gatgctgacg ctccgtgaac agttgccttt ggtcacaaga tttagaagac acagtgtcca 180
 tcctcccaga ttggatctct ttttcatatg gatcttctgt ttctatgtct ttttaaaaaa 240
 taaactttttg ggaacacctt tggattacaa ctgttcatcc tcacctatgc aaagaaaggg 300
 aagctattgc tgggattttg aggagctttt cctaaaagga ttgtacacct tagaagtgtc 360
 taaggaagag tgatgaagat aggcattgaag ccttcgtctc acagctgcat gcgtagtcac 420
 tgttgaagca aatgcctacc taatttgaca ctcttgggtg gtttaaaaaa tttttttgag 480
 tttgcaaata agcatattaa gtctactgat ggagccttcg ggcagtgaac agttatttga 540
 ggacctgat cctggaggca aatcccaaga tgcagaggcc agaaagcaga cagaatcaga 600
 acaaaaattg tctaaaatga cccacaatgc tttggagaac attaactga ttggccaagg 660
 ctgaagcat ctcttccagc accagcgagc gaggtcatca gtgtctccac atgatgtgca 720
 gcaaattcag gcagatccag aacctgaaat ggatctggaa agccagaacg catgtgctga 780
 gattgatggt gtccccaccc accccacagc tctgaatcgt gtctctgcagc agattcgagt 840
 gccacccnag atgaagagag ggacaagctt gcatagtagg cggggcaagc cagaggcccc 900
 aaaggggaagt ccccaaatca acaggaagtc tggtcaggag atgacagctg ttatgcagtc 960
 aggccgaccc atgtcttcat ccacaactga tgcacctacc ggctctgcta tgatggaaat 1020
 agcttgtgct gctgctgctg ctgctgctgc atgtctaccn ggagaggagg gaactgcgga 1080
 gcggatcgaa cggttggaag taagcagcct tgcccaaaca tccagtgcag tggcctccag 1140
 taccgatggc agcatccaca cagactctgt ggatggaaca ccagaccctc agcgcacaaa 1200
 ggctgccatt gctcacctgc agcagaagat cctgaagctc acagaacnaa tcaagattgc 1260
 acaaacagcc cgggacgaca acgttgctga atacttgaag cttgccaaaca gtgcagacaa 1320
 acagcaggct gcccgcatca agcaagtctt tgagaagaag aaccagaaat ctgccnaac 1380
 tatcctccag ctgcaaaaga aacttgagca ctaccacagg aagctcagag aggtagagca 1440
 gaatgggatc ccccggcagc caaaggatgt cttcagggac atgcaccagg gtctgaagga 1500
 tgtaggagca aaggtgactg gcttcagtga aggtgtggtg gatagtgtca aaggtgggtt 1560
 ttccagcttc tcccaggcca cccattcagc agcaggcgct gtagtctcaa agcccagaga 1620
 gattgcctca ctcatcgga acaaatcttg cagtcagac aacatcccca acctgaagga 1680
 ctcttttagag gaagggcaag tggatgatgc ggggaaggct ttgggagtga tttcaaactt 1740
 tcagtctagc ccaaaatatg gtagtgaaga agattgttct agtgccactt caggctcagt 1800

gggagccaac	agcaccacag	ggggcatcgc	tgtaggagca	tccagctcca	aaacaaacac	1860
cctggacatg	cagagctcag	gatttgatgc	actactacat	gagatccagg	agatccggga	1920
aaccagggcc	agactagagg	aatcctttga	gactctcaag	gaacattatc	agaggggacta	1980
ttccttaata	atgcagacct	tacaggagga	gcgatataga	tgtgaacgat	tggaaagaaca	2040
gctaaatgac	ctaacagagc	tccaccagaa	tgaatcttg	aacttgaagc	aggaactggc	2100
aagcatggaa	gaaaaaatcg	cgtatcagtc	ctatgaacgg	gcccgggaca	tccaggaggc	2160
cctggaggca	tgccagacgc	gcatctccaa	gatggagctg	cagcagcagc	agcagcaggt	2220
ggtgcagcta	gaagggtctg	agaatgccac	tgcccggaac	cttctgggca	aactcatcaa	2280
catcctcctg	gctgtcatgg	cagtcctttn	ggtctttgnc	tccactgtag	ccaactgtgt	2340
ggtccccctc	atgaagactc	gcaacaggac	gttcagcact	ttattccttg	tggtttttat	2400
tgcttttctc	tgggaagcact	gggaegccct	cttcagctat	gtggaacggg	tcttttcac	2460
ccctagatga	tgctggcaca	gaaggcattg	ttccctaccc	tctggcgagt	gcatgcagca	2520
gagattcgga	cagcaaatctt	cctactctga	agttttctac	aaacaaaaaa	gagttgagtg	2580
aatctgttta	catttagaat	aatgtttttt	tcttcaagag	acgcaattgc	aatagtattt	2640
tttagatttt	atccaagaag	ttttttgggc	gaaaatcttg	gatcattttt	atgtagcatg	2700
attttccttg	ggatgcfaat	cttaaaacag	tcctttaata	tgaaccaaca	atctggagca	2760
caccgaaggg	caatctaata	tgtggcttga	aggactgcac	taaaaccac	taaaagatg	2820
cgaaaacctg	atgagggcna	accagttaaa	cctaaccccc	tgcttgtct	gggctcatca	2880
cctctcccta	tccagacta	actttactgt	gaaatcctac	acattccatg	tctgaatttt	2940
tgatttcggg	tgggattttc	gttgtccgtg	gaagaacaca	tggatctctc	tggctttctc	3000
acccaagtgt	gccacttacg	ctaactctgg	aagtatgatc	acttttgaac	ctgcccccta	3060
accttgacga	ggatacaaaa	gtgaaagcat	catcccccaa	aggatcactg	cacagtccca	3120
ctacagtatt	tttaagtagc	cctctaata	cttaatttta	agcaaaatcc	cttggccgca	3180
cttttaaggt	ttttttatat	gtgtatagtt	accaaccta	aaataaaaa	tccgaacagc	3240
atacttgaag	aatgtaatac	tcaaactctc	agtgtctcct	tatggtttct	aataggattt	3300
tttattattg	ttattattat	tattgggttt	ttttggacag	ggttgggagg	gtcttttatt	3360
tttcctttga	aataaagaag	tgatgttttt	aaatgaagaa	atgtgtggat	atttaagtgt	3420
gctgtccctc	cttgtcttga	aacagtttga	gtaagaaagt	cttgcgtgta	atgctgccct	3480
ctgccgcctt	tgttttgaga	tgcatgttaa	actccctctg	gctgctgctg	ctgctttttg	3540
gtgtcccgac	atacctacgc	ccccgtttta	tgggtttggc	ttagttgaag	aggaaagggt	3600
tgtgcaagga	gagcaggagg	ctgtttccaa	aaaccagtgt	agtaggatag	ggattttttt	3660
tttttttttg	ccccaaagaa	acgttcaccc	agtgatcttg	ggctgggggt	gtcttttaga	3720
aaagttaga	ctataagagt	cataaataag	tccttggtgt	tccttaattt	attttgttaa	3780
caccctaat	tacaacaaaa	gtgatgatgt	ggagtcttct	gtcttcattt	tggccccagc	3840
attcttaatt	tcaaagcttt	attctgtctg	cctaagagaa	tcaaccaaag	gtgattctcc	3900
taaagagcag	tgaaggaaat	gtcaggttag	caggacccaa	gttttgggtg	tgaagtgttg	3960
ccagcttctc	ataatgtaaa	cggacttggt	aacctaaacct	aattatgctc	agtggacttc	4020
tatagatggg	tttgaaaaa	gaactgagct	gccttcccg	atcgcataac	cagtccatc	4080
atcctgggtg	aacttgaaca	tttagagttt	atctagagag	cttgggtaat	ctttccatat	4140
tattttagtg	attgttcaca	aatgctgttc	cctcttagcc	tcattctgtg	caaccaagtg	4200
catataagat	gccctgaaaa	gagtaacaaa	gtatgctttg	cctgtttcca	cttaccagga	4260
aattccttca	gaactagatt	agcattgccc	tgctgtctg	aaaggacagt	ttacctaatg	4320
gtgccagcct	ccttttgctt	tggcaagctg	gatttctcag	agccagcatg	ttgtttccat	4380
aactactttg	atattttaac	tcaggctactc	cagtcttcac	cccaacctca	gctgatttga	4440
gtacacctgc	tagctctggt	gccccctcaa	aactgcaccc	agagcagggc	cacaagggtg	4500
cttttttttc	ttaaaaaaa	aaaaattaga	accaattcat	gttcatgcca	aaaacaaatt	4560
gtcccccaagc	ctatatgtat	taaaatgtta	actttgccta	aaaatattgc	agtgactttt	4620
taggcaggag	tgccaaagga	cactatgaac	tttttgaact	gacagtttct	cctaactttc	4680
tgcttttagcg	taattgctca	gagtagagag	ccccacaaa	gttattttaa	agatgcccta	4740
gcagcaatcc	accagttttt	ctaagctaga	acctttgagt	ccccaaaact	gcctgaagac	4800
ttaagttttg	tgggcactgg	aagtcacttt	gatagatgga	ttgaaactgt	tcctatttgc	4860
cttgggagcg	ttcttatcta	tcaaagggaag	gttttccact	gtagaaagcc	ccctgcctcc	4920
agccaaatag	tcccatgctg	actttctatc	ttcctttctc	aaactgtctt	aggaaggacc	4980
ttcagtgcag	atcaggtgca	gtaatggctt	tcttgtccct	taattattca	ccagaccag	5040
aagtgttacg	catttaaatgc	tgtttgaac	catgcatctg	ttttcattct	ttgctgtacc	5100
ttttgctgcc	catcctgtta	cttttgagtt	tctttcattg	tgggtgttct	tgggttcttt	5160
tgtcttgtca	gagctcttct	ataacctcgc	tctaattggt	taacagttgt	tctgggtgga	5220
aacgtccccct	catttgaatg	ctcctctaaa	aaaaaaaaaa	aaa		5263

<211> 653
 <212> PRT
 <213> Homo sapiens

<220>
 <221> UNSURE
 <222> (114)

<220>
 <221> UNSURE
 <222> (247)

<220>
 <221> UNSURE
 <222> (290)

<220>
 <221> UNSURE
 <222> (601)

<220>
 <221> UNSURE
 <222> (604)

<400> 20
 Met Glu Pro Ser Gly Ser Glu Gln Leu Phe Glu Asp Pro Asp Pro Gly
 1 5 10 15
 Gly Lys Ser Gln Asp Ala Glu Ala Arg Lys Gln Thr Glu Ser Glu Gln
 20 25 30
 Lys Leu Ser Lys Met Thr His Asn Ala Leu Glu Asn Ile Asn Val Ile
 35 40 45
 Gly Gln Gly Leu Lys His Leu Phe Gln His Gln Arg Arg Arg Ser Ser
 50 55 60
 Val Ser Pro His Asp Val Gln Gln Ile Gln Ala Asp Pro Glu Pro Glu
 65 70 75 80
 Met Asp Leu Glu Ser Gln Asn Ala Cys Ala Glu Ile Asp Gly Val Pro
 85 90 95
 Thr His Pro Thr Ala Leu Asn Arg Val Leu Gln Gln Ile Arg Val Pro
 100 105 110
 Pro Xaa Met Lys Arg Gly Thr Ser Leu His Ser Arg Arg Gly Lys Pro
 115 120 125
 Glu Ala Pro Lys Gly Ser Pro Gln Ile Asn Arg Lys Ser Gly Gln Glu
 130 135 140
 Met Thr Ala Val Met Gln Ser Gly Arg Pro Met Ser Ser Ser Thr Thr
 145 150 155 160
 Asp Ala Pro Thr Gly Ser Ala Met Met Glu Ile Ala Cys Ala Ala Ala
 165 170 175
 Ala Ala Ala Ala Ala Cys Leu Pro Gly Glu Glu Gly Thr Ala Glu Arg
 180 185 190

Ile Glu Arg Leu Glu Val Ser Ser Leu Ala Gln Thr Ser Ser Ala Val
 195 200 205
 Ala Ser Ser Thr Asp Gly Ser Ile His Thr Asp Ser Val Asp Gly Thr
 210 215 220
 Pro Asp Pro Gln Arg Thr Lys Ala Ala Ile Ala His Leu Gln Gln Lys
 225 230 235 240
 Ile Leu Lys Leu Thr Glu Xaa Ile Lys Ile Ala Gln Thr Ala Arg Asp
 245 250 255
 Asp Asn Val Ala Glu Tyr Leu Lys Leu Ala Asn Ser Ala Asp Lys Gln
 260 265 270
 Gln Ala Ala Arg Ile Lys Gln Val Phe Glu Lys Lys Asn Gln Lys Ser
 275 280 285
 Ala Xaa Thr Ile Leu Gln Leu Gln Lys Lys Leu Glu His Tyr His Arg
 290 295 300
 Lys Leu Arg Glu Val Glu Gln Asn Gly Ile Pro Arg Gln Pro Lys Asp
 305 310 315 320
 Val Phe Arg Asp Met His Gln Gly Leu Lys Asp Val Gly Ala Lys Val
 325 330 335
 Thr Gly Phe Ser Glu Gly Val Val Asp Ser Val Lys Gly Gly Phe Ser
 340 345 350
 Ser Phe Ser Gln Ala Thr His Ser Ala Ala Gly Ala Val Val Ser Lys
 355 360 365
 Pro Arg Glu Ile Ala Ser Leu Ile Arg Asn Lys Phe Gly Ser Ala Asp
 370 375 380
 Asn Ile Pro Asn Leu Lys Asp Ser Leu Glu Glu Gly Gln Val Asp Asp
 385 390 395 400
 Ala Gly Lys Ala Leu Gly Val Ile Ser Asn Phe Gln Ser Ser Pro Lys
 405 410 415
 Tyr Gly Ser Glu Glu Asp Cys Ser Ser Ala Thr Ser Gly Ser Val Gly
 420 425 430
 Ala Asn Ser Thr Thr Gly Gly Ile Ala Val Gly Ala Ser Ser Ser Lys
 435 440 445
 Thr Asn Thr Leu Asp Met Gln Ser Ser Gly Phe Asp Ala Leu Leu His
 450 455 460
 Glu Ile Gln Glu Ile Arg Glu Thr Gln Ala Arg Leu Glu Glu Ser Phe
 465 470 475 480
 Glu Thr Leu Lys Glu His Tyr Gln Arg Asp Tyr Ser Leu Ile Met Gln
 485 490 495
 Thr Leu Gln Glu Glu Arg Tyr Arg Cys Glu Arg Leu Glu Glu Gln Leu
 500 505 510

Asn Asp Leu Thr Glu Leu His Gln Asn Glu Ile Leu Asn Leu Lys Gln
515 520 525

Glu Leu Ala Ser Met Glu Glu Lys Ile Ala Tyr Gln Ser Tyr Glu Arg
530 535 540

Ala Arg Asp Ile Gln Glu Ala Leu Glu Ala Cys Gln Thr Arg Ile Ser
545 550 555 560

Lys Met Glu Leu Gln Gln Gln Gln Gln Val Val Gln Leu Glu Gly
565 570 575

Leu Glu Asn Ala Thr Ala Arg Asn Leu Leu Gly Lys Leu Ile Asn Ile
580 585 590

Leu Leu Ala Val Met Ala Val Leu Xaa Val Phe Xaa Ser Thr Val Ala
595 600 605

Asn Cys Val Val Pro Leu Met Lys Thr Arg Asn Arg Thr Phe Ser Thr
610 615 620

Leu Phe Leu Val Val Phe Ile Ala Phe Leu Trp Lys His Trp Asp Ala
625 630 635 640

Leu Phe Ser Tyr Val Glu Arg Phe Phe Ser Ser Pro Arg
645 650

<210> 21

<211> 3349

<212> DNA

<213> Homo sapiens

<400> 21

```

ccccctccag gccccgctcc tgcgccctat ttggtcattc ggggggcaag cggcgggagg 60
ggaaacgtgc gcggccgaag gggaagcggg gccggcgccg gctgcgcaga ggagccgctc 120
tcgcccgcgc caccctggct gggagcccac gaggtcgccg catcctgccc tcggaacaat 180
gggactcggc gcgcgaggtg cttgggcccgc gctgctcctg gggacgctgc aggtgctagc 240
gctgctgggg gccgcccatt aaagcgcagc catggcggca tctgcaaaca tagagaattc 300
tgggcttcca cacaactcca gtgctaactc aacagagact ctccaacatg tgccttctga 360
ccatacaaat gaaacttcca acagtactgt gaaaccacca acttcagttg cctcagactc 420
cagtaataca acggtcacca ccatgaaacc tacagcggca tctaatacaa caacaccagg 480
gatggtctca acaaatatga cttctaccac cttaaagtct acacccaaaa caacaagtgt 540
ttcacagaac acatctcaga tatcaacatc cacaatgacc gtaaccacaa atagttcagt 600
gacatctgct gcttcacag taacaatcac aacaactatg cattctgaag caaagaaagg 660
atcaaaattt gatactggga gctttgttgg tggatttga ttaacgctgg gagttttatc 720
tattctttac attggatgca aaatgtatta ctcaagaaga ggcattcggg atcgaaccat 780
agatgaacat gatgccatca tttaaggaaa tccatggacc aaggatggaa tacagattga 840
tgctgccta tcaattaatt ttggtttatt aatagtttaa aacaatatc tctttttgaa 900
aatagtataa acaggccatg catataatgt acagtgtatt agtaaatatg taaagattct 960
tcaaggtaac aagggttttg gttttgaaat aaacatcttg atcttataga ccgttcatac 1020
aatggtttta gcaagttcat agtaagacaa acaagtccta tctttttttt tttggctggg 1080
gtgggggcat tggtcacata tgaccagtaa ttgaaagacg tcatcactga aagacagaat 1140
gccatctggg catacaaata agaagtttgt cacagcactc aggatttttg gtatcttttg 1200
tagctcacat aaagaacttc agtgcttttc agagctggat atatcttaat tactaatgcc 1260
acacagaaat tatacaatca aactagatct gaagcataat ttaagaaaaa catcaacatt 1320
ttttgtgctt taaactgtag tagttggtct agaaacaaaa tactccaaga aaaagaaaat 1380
tttcaataaa aacccaaaat aatagctttg cttagccctg ttagggatcc attggagcat 1440
taaggagcac atatttttat taacttcttt tgagctttca atgttgatgt aatttttgtt 1500

```

ctctgtgtaa tttaggtaaa ctgcagtgtt taacataata atgttttaaa gacttagttg 1560
 tcagtattaa ataatcctgg cattataggg aaaaaacctc ctagaagtta gattatttgc 1620
 tactgtgaga atattgtcac cactggaagt tacttttagtt catttaattt taattttata 1680
 ttttgtgaat attttaagaa ctgtagagct gctttcaata tctagaaatt ttttaattgag 1740
 tgtaaacaca cctaacttta agaaaaagaa cccttggtat gattttcaaa agaacattta 1800
 gaattctata gagtcaaaac tatagcgtaa tgctgtgttt attaagccag ggattgtggg 1860
 acttccccca ggctactaaa cctgcaggat gaaaatgcta tattttcttt catgcactgt 1920
 cgatattact cagatttggg gaaatgacat ttttatacta aaacaacac caaaatattt 1980
 tagaataaat tcttagaag ttttgagagg aatttttaga gaggacattt cctccttcct 2040
 gatttggata tccctcaaa tccctcctct tactccatgc tgaaggagaa gtactctcag 2100
 atgcattatg ttaatggaga gaaaaagcac agtattgtag agacaccaat attagctaatt 2160
 gtattttgga gtgttttcca ttttacagtt tatattccag cactcaaaac tcagggtcaa 2220
 gttttaacaa aagaggtatg tagtcacagt aaatactaag atggcatttc tatctcagag 2280
 ggccaaagtg aatcacacca gtttctgaag gtcctaaaaa tagctcagat gtcctaataga 2340
 acatgcacct acatttaata ggagtacaat aaaactgttg tcagcttttg ttttacagag 2400
 aacgctagat attaagaatt ttgaaatgga tcatttctac ttgctgtgca ttttaaccaa 2460
 taatctgatg aatatagaaa aaaatgatcc aaaatatgga tatgattgga tgtatgtaac 2520
 acatacatgg agtatggagg aaattttctg aaaaatacat ttagattagt ttagtttgaa 2580
 ggagaggtgg gctgatggct gagttgtatg ttactaactt ggccctgact ggttgtgcaa 2640
 ccattgcttc atttctttgc aaaatgtagt taagatatac tttattctaa tgaaggcctt 2700
 ttaaatttgt ccaactgcatt cttggtattt cactacttca agtcagtcag aacttcgtag 2760
 accgacctga agtttctttt tgaatacttg tttcttttagc actttgaaga tagaaaaacc 2820
 actttttaag tactaagtca tcatttgctt tgaaggtttc ctctgcattg ggtttgaagt 2880
 agtttagtta tgtctttttc tctgtatgta agtagtataa tttgttactt tcaaataccc 2940
 gtactttgaa tgtaggtttt tttgtgttg ttatctataa aaattgaggg aaatggttat 3000
 gcaaaaaaat attttgcttt ggaccataatt tcttaagcat aaaaaaaatg ctcagttttg 3060
 cttgcatttc ttgagaatgt atttatctga agatcaaaac aaacaatcca gatgtataag 3120
 tactaggcag aagccaattt taaaatttcc ttgaataatc catgaaagga ataattcaaa 3180
 tacagataaa cagagttggc agtatattat agtgataatt ttgtattttc acaaaaaaaa 3240
 agttaaacctc ttcttttctt tttattataa tgaccagctt ttggtatttc attgttacca 3300
 agttctattt ttagaataaa attgttctcc ttctaaaaaa aaaaaaaaaa 3349

<210> 22

<211> 208

<212> PRT

<213> Homo sapiens

<400> 22

Met Gly Leu Gly Ala Arg Gly Ala Trp Ala Ala Leu Leu Leu Gly Thr
 1 5 10 15

Leu Gln Val Leu Ala Leu Leu Gly Ala Ala His Glu Ser Ala Ala Met
 20 25 30

Ala Ala Ser Ala Asn Ile Glu Asn Ser Gly Leu Pro His Asn Ser Ser
 35 40 45

Ala Asn Ser Thr Glu Thr Leu Gln His Val Pro Ser Asp His Thr Asn
 50 55 60

Glu Thr Ser Asn Ser Thr Val Lys Pro Pro Thr Ser Val Ala Ser Asp
 65 70 75 80

Ser Ser Asn Thr Thr Val Thr Thr Met Lys Pro Thr Ala Ala Ser Asn
 85 90 95

Thr Thr Thr Pro Gly Met Val Ser Thr Asn Met Thr Ser Thr Thr Leu
 100 105 110

Lys Ser Thr Pro Lys Thr Thr Ser Val Ser Gln Asn Thr Ser Gln Ile

115	120	125
Ser Thr Ser Thr Met Thr Val Thr His Asn Ser	Ser Val Thr Ser Ala	
130	135	140
Ala Ser Ser Val Thr Ile Thr Thr Thr Met His	Ser Glu Ala Lys Lys	
145	150	155 160
Gly Ser Lys Phe Asp Thr Gly Ser Phe Val Gly Gly Ile Val Leu Thr		
	165	170 175
Leu Gly Val Leu Ser Ile Leu Tyr Ile Gly Cys Lys Met Tyr Tyr Ser		
	180	185 190
Arg Arg Gly Ile Arg Tyr Arg Thr Ile Asp Glu His Asp Ala Ile Ile		
195	200	205

<210> 23
 <211> 2361
 <212> DNA
 <213> Homo sapiens

<400> 23
 aagaggccta gacttaagaa gcttctgaaa gaccatgcct catccatgcc taacgcagag 60
 tcctggcctg tcgtaggtca gttttcaagc gttggctcct tgggagccga tgaatcaaag 120
 tgggtatgtt ctgagtttaa agagagcatg ctgacactgg ggaaggaaag caagactcca 180
 ggaaaaagct ctgttctctt ttacttgatc tatccttctg tggaaaatgt gcggaccagt 240
 ttagaaggat atcctgctgg gggctctctt ccctatagca tccagacagc tgaaaaaacag 300
 aattggctgc attcctattt tcacaaatgg tcagctgaga cttctggccg cagcaatgcc 360
 atgccacata ttaagacata tatgaggcct tctccagact tcagtaaaat tgcttggttc 420
 cttgtcacaa gcgcaaatct gtccaaggct gcctggggag cattggagaa gaatggcacc 480
 cagctgatga tccgctccta cgagctcggg gtccttttcc tcccttcagc atttggctta 540
 gacagtttca aagtgaacaa gaagttcttc gctggcagcc aggagccaat ggccaccttt 600
 cctgtgccat atgatttgcc tccagaactg tatggaagta aagatcgccc atggatatgg 660
 aacattcctt atgtcaaaag accggatacg catgggaaca tgtgggtgcc ctccctgagaa 720
 tcttgaggca ctgtgaaatt taagtgttaag acattgagcc acaaacatgg aatctcttct 780
 ttgtactgga tgtccacttc ccttaaagtc ttatttgac ccttacaaaa tctttccaaa 840
 ggtcactctt atgaatggat gttggttata cttttaatgg acattaacat tcctaataaa 900
 gtattagttt ctttaattcac ttttatatgt tttggaaga aaattagtg acttctctat 960
 gttaaaaata cgtactgett gagtatcccc tgtctgaaat gcttgggacc agaagtgttt 1020
 cagcttttgg atttttttga attttggaaat atttgcatag cataatgaga tatcttggga 1080
 atgggaccca aatctaaaca caaaattcat ttatgtttca tatacacctt atatacaata 1140
 acctaaaggt gattttatat gatattttga gtaattttat gcatgaaaca aagttttgac 1200
 aggccttttga cgtgatttca tcacatgagt tcaggcatgg aaattttcat ttggagcatc 1260
 atgtcagcac tcaaaaagtt ctggatcttg gagcagttca gattttcaga ttagggatgc 1320
 tcaaatctat atagatatata aattatcttc acagtaacat agaattctctt ggtgctgtca 1380
 gctgttggga attgaagatt gactttgtgc ttccaccctc catccagaaa ggacccttc 1440
 attccaccag aattttaccc aggaagaaca cgatcatttc ctttttcacc gatgcctct 1500
 ctcaagctttc tgagtacgtc tcttggggtc gctggagggtg atcctaggat ctgtctctga 1560
 gaccaatgtg ctgtttcagc cccctgcagc taagaattgt attgactgtc ctcacagcgg 1620
 cttttcatag ctttcagctt cagctttacg aggccttctc tctctccctg gcacctgctg 1680
 gctgcctcac tgcttacaga caggtccac caaacccaaa cacctgccta gggtaaatgg 1740
 gtctctcttc tatccccaga aactttcaga ggaagcagct catagaaaca taaaaagca 1800
 cacaagtatt ttgggaaaaa atcctaaaag gtgacttaat ttgatgcctt aaattcacaa 1860
 gtgaggaagc taaggcctag aaggttaagg atgtccccag ggtcacacag tgagcggggc 1920
 tcagagcttg agtgtctttg tgcttgggt acattgtgtt ctccctaggg tgcttttagac 1980
 cctgtttgtt ttctcttgca tgaggtgat ttccagttg tcatcaacct ctttatctta 2040
 taatttagga tagagttgaa cgttagtctt gaaagatttt ctaaagtagt ctttcaaact 2100
 gttcctcaga ggcctaggat tttccaaaag taccttagga accttgtagg ctgcagtggg 2160

ggtgtggcga tagagcagga ggcagggaga cagggctgca gggcctccca ccttccaaca 2220
 gacaggctct gctgtatctg ttgtacatac tgggattctg taaaggacat tatctggggt 2280
 gtcgtaggta tttttgtgtg ttctgctttt tttaaataaa cttgaaaagc tactgaacta 2340
 aaaaaaaaaa aaaaaaaaaa a' 2361

<210> 24
 <211> 223
 <212> PRT
 <213> Homo sapiens

<400> 24
 Met Pro Asn Ala Glu Ser Trp Pro Val Val Gly Gln Phe Ser Ser Val
 1 5 10 15
 Gly Ser Leu Gly Ala Asp Glu Ser Lys Trp Leu Cys Ser Glu Phe Lys
 20 25 30
 Glu Ser Met Leu Thr Leu Gly Lys Glu Ser Lys Thr Pro Gly Lys Ser
 35 40 45
 Ser Val Pro Leu Tyr Leu Ile Tyr Pro Ser Val Glu Asn Val Arg Thr
 50 55 60
 Ser Leu Glu Gly Tyr Pro Ala Gly Gly Ser Leu Pro Tyr Ser Ile Gln
 65 70 75 80
 Thr Ala Glu Lys Gln Asn Trp Leu His Ser Tyr Phe His Lys Trp Ser
 85 90 95
 Ala Glu Thr Ser Gly Arg Ser Asn Ala Met Pro His Ile Lys Thr Tyr
 100 105 110
 Met Arg Pro Ser Pro Asp Phe Ser Lys Ile Ala Trp Phe Leu Val Thr
 115 120 125
 Ser Ala Asn Leu Ser Lys Ala Ala Trp Gly Ala Leu Glu Lys Asn Gly
 130 135 140
 Thr Gln Leu Met Ile Arg Ser Tyr Glu Leu Gly Val Leu Phe Leu Pro
 145 150 155 160
 Ser Ala Phe Gly Leu Asp Ser Phe Lys Val Lys Gln Lys Phe Phe Ala
 165 170 175
 Gly Ser Gln Glu Pro Met Ala Thr Phe Pro Val Pro Tyr Asp Leu Pro
 180 185 190
 Pro Glu Leu Tyr Gly Ser Lys Asp Arg Pro Trp Ile Trp Asn Ile Pro
 195 200 205
 Tyr Val Lys Ala Pro Asp Thr His Gly Asn Met Trp Val Pro Ser
 210 215 220

<210> 25
 <211> 3370
 <212> DNA
 <213> Homo sapiens

<400> 25

```

cgcgctgtgg ctgctgctgc tgetgctgcc ccggacccgg gcggacgagc acgaacacac 60
gtatcaagat aaagaggaaag ttgtcttatg gatgaatact gttggggccct accataatcg 120
tcaagaacaa tataagtact ttctacttcc attctgtgtg gggtcacaaa aaagtatcag 180
tcattaccat gaaactctgg gagaagcact tcaaggggtt gaattggaat ttagtgggtc 240
ggatatttaa tttaaagatg atgtgatgcc agccacttac tgtgaaattg atttagataa 300
agaaaagaga gatgcatttg tatatgccat aaaaaatcat tactgggtacc agatgtacat 360
agatgattta ccaatatggg gtattgttgg tgaggctgat gaaaatggag aagattacta 420
tctttggacc tataaaaaac ttgaaatagg ttttaatgga aatcgaattg ttgatgttaa 480
tctaactagt gaaggaaagg tgaaactggg tccaaatact aaaatccaga tgtcatattc 540
agtaaaatgg aaaaagtccag atgtgaaatt tgaagatcga ttgacaaa atcttgatcc 600
gtcctttttt caacatcgga ttcatgggtt ttcaattttc aactccttca tgatgggtg 660
cttcttgggt ggcttaagtt caatgatttt aatgagaaca ttaagaaaag attatgctcg 720
gtacagtaaa gaggaagaaa tggatgatag ggatagagac ctaggagatg aatatggatg 780
gaaacagggt catggagatg tatttagacc atcaagtcac ccactgatag ttctctctct 840
gattggttct ggatgtcaga tatttgctgt gtctctcatc gttattattg ttgcaatgat 900
agaagattta tatactgaga ggggatcaat gctcagtaca gccatatttg tctatgctgc 960
tacgtctcca gtgaatgggt attttggagg aagtctgtat gctagacaag gaggaaggag 1020
atggataaaag cagatgttta ttggggcatt ccttatccca gctatgggtg gtggcactgc 1080
cttctctcatc aatttcatag ccatatttta ccatgcttca agagccattc cttttggaac 1140
aatgggtggc gtttgttgca tctgtttttt tgttattctt cctctaaatc ttgttggtag 1200
aatacttggc cgaaatctgt caggtcagcc caactttcct tgtcgtgtca atgctgtgcc 1260
tcgtcttata ccggagaaaa aatgggtcat ggagcctcgc gttattgttt gcctgggtgg 1320
aattttacct tttggttcaa tctttattga aatgtatttc atcttcacgt cttcttgggc 1380
atataagatc tattatgtct atggcttcat gatgtgggtg ctggttatcc tgtgcattgt 1440
gactgtctgt gtgactattg tgtgcacata ttttctacta aatgcagaag attaccctg 1500
gcaatggaca agttttctct ctgctgcac aactgcaatc tatgtttaca tgtattcctt 1560
ttactactat tttttcaaaa caaagatgta tggcttattt caaacatcat ttactttgg 1620
atataatggc gtatttagca cagccttggg gataatgtgt ggagcgattg gttacatggg 1680
aacaagtgcc tttgtccgaa aaatctatac taatgtgaaa attgactaga gaccaagaa 1740
aacctggaac tttggatcaa tttctttttc ataggggtgg aacttgcaca gcaaaaaaaa 1800
acaaacgcaa gaagagattt gggtcttaac acactgggta ctttgtgggt ctgtctttcg 1860
tcgggtggctt aaagtaacat ctatttccat tgatcctagg ttcttctga ctgctttctc 1920
caactgttca cagcaaatgc ttggatttta tgcagttagc attactacag tacatggcta 1980
atcttcccaa aaactagctc attaaagatg aaatagacca gctctcttca gtgaagagga 2040
caaatagttt atttaagca tttgttccaa taaaataaat agagggaaac ttggatgcta 2100
aaattacatg aataggaatc ttcttggcac ttagtgtttc tatgttattg aaaaatgatg 2160
ttccagaaaag attacttttt tctcttatt ttactgcca ttgtcgacct attgtgggac 2220
atttttatat attgaatctg ggttcttttt tgactttttt ttttcccaat ccaacagcat 2280
cctttttttt aaaagagaga attagaaaat attaaatcct gcatgtaata tatctgctgt 2340
catcttagtt ggaccaactt cccatttatt tatcttaaaa ctatacagtt acatcttaat 2400
tccatccaaa gaagatacag tttgaagaca gaagtgtact ctctacaatg caatttactg 2460
tacagttaga aagcaaagtg ttaaatggag aagatacttg tttttattaa acattttgag 2520
atttagataa actacatttt aactgaatgt cttaaagtgt tatctttttt cccccaagt 2580
tagtcttaaa tcttttgggt ttgaatgaag gttttacata agaaattatt aaaaacaagg 2640
gggtgtgggt ataaatgtat ataacattaa ataatgtaac gtaggtgtag attcccaaat 2700
gcatttggat gtacagatcg actacagagt acttttttct tatgatgatt ggtgtagaaa 2760
tgtgtgattt ggggtgggct ttacatcttg cctaccattg catgaaacat tggggtttct 2820
tcaaaatgtg tgtgtcatac ttcttttggg aggggggttg ttttcttctg tttattttct 2880
gagactccta caggacccaa atttgtaatt tagagacact taattttgtt aatcctgcct 2940
gggacactta agtaacatct aaagcattat tgctttagaa tgttcaaata aaatttctcg 3000
accaaattgt tttgtggaaa tagatgtgtt tgcaatttga agatatcttt ctgtccagaa 3060
ggcaaaatta ccgaatgcca tttttaaaag tatgctataa actatgctac tctcatacag 3120
gggaccgta ttttaaaatc tccagacttg cttacatcta gattatccag cacaatcata 3180
aagtgaatga caaacctttt gaatgaaatt gtggcacaaa atctgttcag gttgggtgac 3240
cgtgtaaaagt ggggatgggg taaaagtggg taacgtactg ttggatcaac aaataaagg 3300
tacagttttg tttgagaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 3360
aaaaaaaaaa

```

<210> 26
<211> 545

<212> PRT

<213> Homo sapiens

<400> 26

Met Asn Thr Val Gly Pro Tyr His Asn Arg Gln Glu Thr Tyr Lys Tyr
1 5 10 15

Phe Ser Leu Pro Phe Cys Val Gly Ser Lys Lys Ser Ile Ser His Tyr
20 25 30

His Glu Thr Leu Gly Glu Ala Leu Gln Gly Val Glu Leu Glu Phe Ser
35 40 45

Gly Leu Asp Ile Lys Phe Lys Asp Asp Val Met Pro Ala Thr Tyr Cys
50 55 60

Glu Ile Asp Leu Asp Lys Glu Lys Arg Asp Ala Phe Val Tyr Ala Ile
65 70 75 80

Lys Asn His Tyr Trp Tyr Gln Met Tyr Ile Asp Asp Leu Pro Ile Trp
85 90 95

Gly Ile Val Gly Glu Ala Asp Glu Asn Gly Glu Asp Tyr Tyr Leu Trp
100 105 110

Thr Tyr Lys Lys Leu Glu Ile Gly Phe Asn Gly Asn Arg Ile Val Asp
115 120 125

Val Asn Leu Thr Ser Glu Gly Lys Val Lys Leu Val Pro Asn Thr Lys
130 135 140

Ile Gln Met Ser Tyr Ser Val Lys Trp Lys Lys Ser Asp Val Lys Phe
145 150 155 160

Glu Asp Arg Phe Asp Lys Tyr Leu Asp Pro Ser Phe Phe Gln His Arg
165 170 175

Ile His Trp Phe Ser Ile Phe Asn Ser Phe Met Met Val Ile Phe Leu
180 185 190

Val Gly Leu Val Ser Met Ile Leu Met Arg Thr Leu Arg Lys Asp Tyr
195 200 205

Ala Arg Tyr Ser Lys Glu Glu Glu Met Asp Asp Met Asp Arg Asp Leu
210 215 220

Gly Asp Glu Tyr Gly Trp Lys Gln Val His Gly Asp Val Phe Arg Pro
225 230 235 240

Ser Ser His Pro Leu Ile Phe Ser Ser Leu Ile Gly Ser Gly Cys Gln
245 250 255

Ile Phe Ala Val Ser Leu Ile Val Ile Ile Val Ala Met Ile Glu Asp
260 265 270

Leu Tyr Thr Glu Arg Gly Ser Met Leu Ser Thr Ala Ile Phe Val Tyr
275 280 285

Ala Ala Thr Ser Pro Val Asn Gly Tyr Phe Gly Gly Ser Leu Tyr Ala
290 295 300

Arg Gln Gly Gly Arg Arg Trp Ile Lys Gln Met Phe Ile Gly Ala Phe
 305 310 315 320
 Leu Ile Pro Ala Met Val Cys Gly Thr Ala Phe Phe Ile Asn Phe Ile
 325 330 335
 Ala Ile Tyr Tyr His Ala Ser Arg Ala Ile Pro Phe Gly Thr Met Val
 340 345 350
 Ala Val Cys Cys Ile Cys Phe Phe Val Ile Leu Pro Leu Asn Leu Val
 355 360 365
 Gly Thr Ile Leu Gly Arg Asn Leu Ser Gly Gln Pro Asn Phe Pro Cys
 370 375 380
 Arg Val Asn Ala Val Pro Arg Pro Ile Pro Glu Lys Lys Trp Phe Met
 385 390 395 400
 Glu Pro Ala Val Ile Val Cys Leu Gly Gly Ile Leu Pro Phe Gly Ser
 405 410 415
 Ile Phe Ile Glu Met Tyr Phe Ile Phe Thr Ser Phe Trp Ala Tyr Lys
 420 425 430
 Ile Tyr Tyr Val Tyr Gly Phe Met Met Leu Val Leu Val Ile Leu Cys
 435 440 445
 Ile Val Thr Val Cys Val Thr Ile Val Cys Thr Tyr Phe Leu Leu Asn
 450 455 460
 Ala Glu Asp Tyr Pro Trp Gln Trp Thr Ser Phe Leu Ser Ala Ala Ser
 465 470 475 480
 Thr Ala Ile Tyr Val Tyr Met Tyr Ser Phe Tyr Tyr Tyr Phe Phe Lys
 485 490 495
 Thr Lys Met Tyr Gly Leu Phe Gln Thr Ser Phe Tyr Phe Gly Tyr Met
 500 505 510
 Ala Val Phe Ser Thr Ala Leu Gly Ile Met Cys Gly Ala Ile Gly Tyr
 515 520 525
 Met Gly Thr Ser Ala Phe Val Arg Lys Ile Tyr Thr Asn Val Lys Ile
 530 535 540

Asp
 545

<210> 27
 <211> 3136
 <212> DNA
 <213> Homo sapiens

<400> 27
 gctgcgagta cctccatggg cccgggtggct gtgacggcgg cagtggcgcc tgtcctgtcc 60
 ataaacagcg atttctcaga ttgacgggaa attaaaaagc aactgctgct tattgcgggc 120
 ctaccacggg agcggggcct actacacagt agcaaatggt cggcggagtt ggctttctct 180
 ctccctgcat tgcctctggc cgagctgcaa ccgcctccgc ctattacaga ggaagatgcc 240

caggatatgg atgcctatac cctggccaag gcctactttg acgttaaaga gtatgatcgg 300
gcagcacatt tctgcatgg ctgcaatagc aagaaagcct attttctgta tatgtattcc 360
agatatctgt ctggagaaaa aaagaaggac gatgaaacag ttgatagctt agggcccttg 420
gaaaaaggac aagtgaaaaa ttaggcgctt agagaattga gagtggagct cagcaaaaaa 480
caccaagctc gagaacttga tggatttggg ctttatctgt atgggtgggt gcttcgaaaa 540
ctggacttgg ttaaagaggc cattgatgtg tttgtggaag ctactcatgt tttgcccttg 600
cattggggag cctggttaga actctgtaac ctgatcacag acaaagagat gctgaagttc 660
ctgtctttgc cagacacctg gatgaaagag ttttttctgg ctcatatata cacagagttg 720
cagttgatag aggaggccct gcaaaagtat cagaatctca ttgatgtggg cttctctaag 780
agctcgtata ttgtttccca aattgcagtt gcctatcaca atatcagaga tattgacaaa 840
gcctctctca tttttaatga gctaaggaaa caagaccctt acaggattga aaatatggac 900
acattctcca accttcttta tgtcaggagc atgaaatcgg agttgagtta tctggctcat 960
aacctctgtg agattgataa atactgtgta gaaacgtgct gtgtaattgg caattattac 1020
agtttacgtt ctgagcatga gaaagcagcc ttatatctcc agagagccct gaaattaaat 1080
cctcggtatc ttggtgcctg gacactaatg ggacatgagt acatggagat gaagaacacg 1140
tctgtgtcta tccaggctta tagacatgcc attgaggtca acaaacggga ctacagagct 1200
tggtagggcc tcgggcagac ctatgaaatc cttaaagtgc cattttactg cttttattat 1260
tatagcggg gccaccagct tcgacccaat gattctcgca tgctggttgc tttaggagaa 1320
tgttacgaga aactcaatca actagtggaa gccaaaaagt gtttttggat agcttacgcc 1380
gtgggagatg tggagaaaaat ggctctgggt aaactggcaa agcttcatga acagttgact 1440
gagtcagaac aggtgcca gtgttacatc aaatatatcc aagatatcta tacctgtggg 1500
gaaatagtag aacacttggg ggaagcact gcctttcgct atctggccca gtactatatt 1560
aagtgcacac tgtgggatga agcttcaact tgtgcacaaa agtgtgtgac atttaatatg 1620
acccgggaag aaggtgaagg cttactccgg caaatcctac agcttcggaa ccaaggcgag 1680
actcctacca ccgaggtgcc tgctcccttt ttctactctg cttactcttc tgctaacaat 1740
acccccacac gcagagtctt tccactcaac ttgtctcttg tcacgccata gttggctact 1800
ctcaagccag cacattgtta gacccatctt aattaagcct tacctccatg taaagaacag 1860
cacgtctgtt ccaaggacct cagctcttct tgtgtctaca gatggcaaca gctccatagg 1920
ggacagcttg tataattacc ttcagaggcc aactgacaga atcctggcag gaacagacat 1980
tatcttgcca gttagaagta cttctgtctc acttatgtcc aaagagtggc tatagatctt 2040
ggccttcttc cctgaatgct tttttttttt tggcccccac gaaagtcctt tttatagcac 2100
tttagcacag gcaatgctac aggaacaaaag tttcaatgct gctgagagtg aaagaaagga 2160
ggaaagtctg cactctacc ctgagctggc agtagggcac tgagtaccct aggaagaagt 2220
cagagcaatg gatacaaatg accttgcctt tggatttgct gagcatgac cctattctga 2280
tgtcagagat taggttttaa tggaaatag ctatccattt gttcttactc tctagggaga 2340
caatcttcca aaacagtttt ggggggggtct tctaaagctt tcaaattgga agtaacttta 2400
ttcaactaga gttgaataaa agaagggcaa aaataatctc acagagcttg gaactgctga 2460
tagcccttac tgaggggcaa agatggctat attgttagct atactcctac caaagcaagc 2520
aaggagatag gattatagat aatttcacgg acatttggaa ataacattgg tgattataga 2580
gacaagaata aactcacttc aagctggctt gttttaataa attttcaacg taattgtcta 2640
tttttttccc tcccatctgc aacagaatac atttttttca gcctttatct agatgaggta 2700
aagggaatca ttcttatggt gctcttggag agtttcaggc ctgtgcatgt gtgtacagca 2760
ggaggtaata tgctataatg tctgtgtgaa tatatttgca cagttagatgc tatggatcat 2820
tctgagctca gggccagac tttattctta ttcccagaat tttgtgttac gtttttacct 2880
cctaacatat gacacttcat cttatattaa ggaaggttta gaatatctaa tacgacttga 2940
attcatttgt tactaagcct tctcaggcaa gctgtatact agttactggg ctccactgcc 3000
atgccttttc aaggttccca tgggtccagaa tgatgtttga ttcttaattt ttctgtccct 3060
tttataattt gttttaatga tttgtctaca tttggaattc aataaaaaat gtgaacaata 3120
aaaaaaaaa aaaaaa 3136

<210> 28

<211> 591

<212> PRT

<213> Homo sapiens

<400> 28

Met Val Pro Val Ala Val Thr Ala Ala Val Ala Pro Val Leu Ser Ile
1 5 10 15

Asn Ser Asp Phe Ser Asp Leu Arg Glu Ile Lys Lys Gln Leu Leu Leu

20										25										30										
Ile	Ala	Gly	Leu	Thr	Arg	Glu	Arg	Gly	Leu	Leu	His	Ser	Ser	Lys	Trp															
		35						40					45																	
Ser	Ala	Glu	Leu	Ala	Phe	Ser	Leu	Pro	Ala	Leu	Pro	Leu	Ala	Glu	Leu															
		50					55					60																		
Gln	Pro	Pro	Pro	Pro	Ile	Thr	Glu	Glu	Asp	Ala	Gln	Asp	Met	Asp	Ala															
	65					70				75					80															
Tyr	Thr	Leu	Ala	Lys	Ala	Tyr	Phe	Asp	Val	Lys	Glu	Tyr	Asp	Arg	Ala															
				85					90					95																
Ala	His	Phe	Leu	His	Gly	Cys	Asn	Ser	Lys	Lys	Ala	Tyr	Phe	Leu	Tyr															
			100					105					110																	
Met	Tyr	Ser	Arg	Tyr	Leu	Ser	Gly	Glu	Lys	Lys	Lys	Asp	Asp	Glu	Thr															
		115					120					125																		
Val	Asp	Ser	Leu	Gly	Pro	Leu	Glu	Lys	Gly	Gln	Val	Lys	Asn	Glu	Ala															
	130					135					140																			
Leu	Arg	Glu	Leu	Arg	Val	Glu	Leu	Ser	Lys	Lys	His	Gln	Ala	Arg	Glu															
	145				150					155				160																
Leu	Asp	Gly	Phe	Gly	Leu	Tyr	Leu	Tyr	Gly	Val	Val	Leu	Arg	Lys	Leu															
				165					170					175																
Asp	Leu	Val	Lys	Glu	Ala	Ile	Asp	Val	Phe	Val	Glu	Ala	Thr	His	Val															
		180					185						190																	
Leu	Pro	Leu	His	Trp	Gly	Ala	Trp	Leu	Glu	Leu	Cys	Asn	Leu	Ile	Thr															
		195					200					205																		
Asp	Lys	Glu	Met	Leu	Lys	Phe	Leu	Ser	Leu	Pro	Asp	Thr	Trp	Met	Lys															
	210					215					220																			
Glu	Phe	Phe	Leu	Ala	His	Ile	Tyr	Thr	Glu	Leu	Gln	Leu	Ile	Glu	Glu															
	225				230					235				240																
Ala	Leu	Gln	Lys	Tyr	Gln	Asn	Leu	Ile	Asp	Val	Gly	Phe	Ser	Lys	Ser															
				245					250					255																
Ser	Tyr	Ile	Val	Ser	Gln	Ile	Ala	Val	Ala	Tyr	His	Asn	Ile	Arg	Asp															
		260					265						270																	
Ile	Asp	Lys	Ala	Leu	Ser	Ile	Phe	Asn	Glu	Leu	Arg	Lys	Gln	Asp	Pro															
	275						280					285																		
Tyr	Arg	Ile	Glu	Asn	Met	Asp	Thr	Phe	Ser	Asn	Leu	Leu	Tyr	Val	Arg															
	290				295						300																			
Ser	Met	Lys	Ser	Glu	Leu	Ser	Tyr	Leu	Ala	His	Asn	Leu	Cys	Glu	Ile															
	305				310					315				320																
Asp	Lys	Tyr	Arg	Val	Glu	Thr	Cys	Cys	Val	Ile	Gly	Asn	Tyr	Tyr	Ser															
			325						330				335																	
Leu	Arg	Ser	Gln	His	Glu	Lys	Ala	Ala	Leu	Tyr	Phe	Gln	Arg	Ala	Leu															

340	345	350
Lys Leu Asn Pro Arg Tyr Leu Gly Ala Trp Thr Leu Met Gly His Glu		
355	360	365
Tyr Met Glu Met Lys Asn Thr Ser Ala Ala Ile Gln Ala Tyr Arg His		
370	375	380
Ala Ile Glu Val Asn Lys Arg Asp Tyr Arg Ala Trp Tyr Gly Leu Gly		
385	390	400
Gln Thr Tyr Glu Ile Leu Lys Met Pro Phe Tyr Cys Leu Tyr Tyr Tyr		
405	410	415
Arg Arg Ala His Gln Leu Arg Pro Asn Asp Ser Arg Met Leu Val Ala		
420	425	430
Leu Gly Glu Cys Tyr Glu Lys Leu Asn Gln Leu Val Glu Ala Lys Lys		
435	440	445
Cys Phe Trp Ile Ala Tyr Ala Val Gly Asp Val Glu Lys Met Ala Leu		
450	455	460
Val Lys Leu Ala Lys Leu His Glu Gln Leu Thr Glu Ser Glu Gln Ala		
465	470	475
Ala Gln Cys Tyr Ile Lys Tyr Ile Gln Asp Ile Tyr Thr Cys Gly Glu		
485	490	495
Ile Val Glu His Leu Glu Glu Ser Thr Ala Phe Arg Tyr Leu Ala Gln		
500	505	510
Tyr Tyr Phe Lys Cys Lys Leu Trp Asp Glu Ala Ser Thr Cys Ala Gln		
515	520	525
Lys Cys Cys Ala Phe Asn Asp Thr Arg Glu Glu Gly Lys Ala Leu Leu		
530	535	540
Arg Gln Ile Leu Gln Leu Arg Asn Gln Gly Glu Thr Pro Thr Thr Glu		
545	550	555
Val Pro Ala Pro Phe Phe Leu Pro Ala Ser Leu Ser Ala Asn Asn Thr		
565	570	575
Pro Thr Arg Arg Val Ser Pro Leu Asn Leu Ser Ser Val Thr Pro		
580	585	590

<210> 29
 <211> 2472
 <212> DNA
 <213> Homo sapiens

<400> 29
 tatgagcctt cggaacttgt ggagagacta caaagttttg gttgttatgg tccctttagt 60
 tgggtcctata catttgggggt ggtacagaat caaaagcagc cctgttttcc aaatacctaa 120
 aaacgacgac attcctgagc aagatagtct gggactttca aatcttcaga agagccaaat 180
 ccaggggaag tagcaggctt gcaatcttca ggtaaagaag cagctttgaa tctgagcttc 240
 atatcgaaag aagagatgaa aaataccagt tggattagaa agaactggct tctttagtct 300
 gggatatctt tcataggtgt ccatcttgga acatactttt tgcagaggtc tgcaaagcag 360

```

tctgtaaaat ttcagtctca aagcaaacaa aagagtattg aagagtgaag taaaataaat 420
atttgggaatt actaatattgt cattaatatca ttctatgctg attagcttca taaacattga 480
actttttgat tttatagcca caatgctgca tttcatact ttaattccta aagaataatt 540
tttaaatgtta aaacgtgata atgcaataaa tagaaaaatg tggtttacaa aataaaaaacg 600
gtcttcacta gttaccacct gaagtaagat gtctcgtttg gaagctaaga agccatcatt 660
gtgtaagagt gaaccactga caactgagag agtcaggacc acactttctg tcttgaaaag 720
aattgtaaca tcatgctatg gcccctcagg taggctgaag cagctgcaca atggcttttg 780
aggttacgtg tgtacaacct cacagtcctc agctctgctc agtcaccttt tggtcacaca 840
tcccatttta aagatcctga cagcctccat acagaatcat gtgtcaagct tcagtgattg 900
tggcttattc acagctattc tttgctgcaa cctgattgaa aatgttcaga gattaggctt 960
gacaccacc actgtcatta gattaataaa acatcttttg agtctttgca tcagttatct 1020
caagtctgat acctgtggtt gtcgaatccc agtggacttt agtagtactc agatcctcct 1080
ttgtttggtg cgtagtatat taacaagtaa acctgcctgt atgctacca gaaaggaaaac 1140
agagcatgtc agtgctttga tcctgagagc ctttttgctt acaattccag aaaatgctga 1200
agggcacatc attttaggaa agagtttaat tgtaccttta aaagggtcaa gagttataga 1260
ttccactgta ttacctggga tactcattga aatgtcagaa gttcaattaa tgaggctatt 1320
acctatcaaa aaatcaactg ccctcaaggt ggcactcttt tgtacaactt tatccggaga 1380
cacttctgac actggagaag gaactgtggt ggtcagttat ggggtttctc ttgaaaatgc 1440
agtcttgga cagctgctta acctaggaag gcagctaate agtgaccacg tagatcttgt 1500
cctgtgcaa aaagtataac atccatcttt gaagcagttt ctcaatatgc atcgtattat 1560
tgccatagac agaattggag tgactctgat ggaacccctg actaaaatga caggaacaca 1620
gcctattgga tccctaggct caatatgtcc taatagtatt ggaagtgtga aagatgtgtg 1680
cactgcaaaa tttggtcccc aacatttttt tcatcttatt cctaataag caacaatctg 1740
cagcttgctt ctctgcaaca gaaatgacac tgcctgggat gagctgaagc tcacgtgtca 1800
gacggcactg catgtcctgc agttaacact caaggaacca tgggctttgt tgggaggtgg 1860
ctgtactgaa actcatttgg ctgcatatat cagacacaag actcacaacg acccagaaaag 1920
cattctcaaa gatgatgaat gtactcaaac agaacttcaa ttaattgctg aagcattttg 1980
cagtgcccta gaattctgtt tgggtctttt agaacatgat ggaggtgaaa ttctcactga 2040
catgaagtat ggacaccttt ggtcagttca ggcagattct ccctgtgttg ctaactggcc 2100
agatttgctt tcacagtgtg gctgtggatt atacaatagc caggaagaac tcaactggtc 2160
tttcttaaga agcacacgtc gtccatttgt gccacaaagc tgccttcac atgaagctgt 2220
gggtcagcc agcaacctga ccttgactg tttgactgca aagcttagtg gcctacaggt 2280
ggctgtagag acagccaatt tgatttggga tctttcatat gttattgaag ataaaaacta 2340
agagaatagc atgttcgtat tacaagagaa acaataaac tagtctgttg gcaattgaga 2400
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2460
aaaaaaaaaa aa 2472

```

<210> 30
 <211> 570
 <212> PRT
 <213> Homo sapiens'

```

<400> 30
Met Ser Arg Leu Glu Ala Lys Lys Pro Ser Leu Cys Lys Ser Glu Pro
  1          5          10         15

Leu Thr Thr Glu Arg Val Arg Thr Thr Leu Ser Val Leu Lys Arg Ile
      20          25          30

Val Thr Ser Cys Tyr Gly Pro Ser Gly Arg Leu Lys Gln Leu His Asn
      35          40          45

Gly Phe Gly Gly Tyr Val Cys Thr Thr Ser Gln Ser Ser Ala Leu Leu
      50          55          60

Ser His Leu Leu Val Thr His Pro Ile Leu Lys Ile Leu Thr Ala Ser
      65          70          75          80

Ile Gln Asn His Val Ser Ser Phe Ser Asp Cys Gly Leu Phe Thr Ala
      85          90          95

```

Ile Leu Cys Cys Asn Leu Ile Glu Asn Val Gln Arg Leu Gly Leu Thr
 100 105 110
 Pro Thr Thr Val Ile Arg Leu Asn Lys His Leu Leu Ser Leu Cys Ile
 115 120 125
 Ser Tyr Leu Lys Ser Asp Thr Cys Gly Cys Arg Ile Pro Val Asp Phe
 130 135 140
 Ser Ser Thr Gln Ile Leu Leu Cys Leu Val Arg Ser Ile Leu Thr Ser
 145 150 155 160
 Lys Pro Ala Cys Met Leu Thr Arg Lys Glu Thr Glu His Val Ser Ala
 165 170 175
 Leu Ile Leu Arg Ala Phe Leu Leu Thr Ile Pro Glu Asn Ala Glu Gly
 180 185 190
 His Ile Ile Leu Gly Lys Ser Leu Ile Val Pro Leu Lys Gly Gln Arg
 195 200 205
 Val Ile Asp Ser Thr Val Leu Pro Gly Ile Leu Ile Glu Met Ser Glu
 210 215 220
 Val Gln Leu Met Arg Leu Leu Pro Ile Lys Lys Ser Thr Ala Leu Lys
 225 230 235 240
 Val Ala Leu Phe Cys Thr Thr Leu Ser Gly Asp Thr Ser Asp Thr Gly
 245 250 255
 Glu Gly Thr Val Val Val Ser Tyr Gly Val Ser Leu Glu Asn Ala Val
 260 265 270
 Leu Asp Gln Leu Leu Asn Leu Gly Arg Gln Leu Ile Ser Asp His Val
 275 280 285
 Asp Leu Val Leu Cys Gln Lys Val Ile His Pro Ser Leu Lys Gln Phe
 290 295 300
 Leu Asn Met His Arg Ile Ile Ala Ile Asp Arg Ile Gly Val Thr Leu
 305 310 315 320
 Met Glu Pro Leu Thr Lys Met Thr Gly Thr Gln Pro Ile Gly Ser Leu
 325 330 335
 Gly Ser Ile Cys Pro Asn Ser Tyr Gly Ser Val Lys Asp Val Cys Thr
 340 345 350
 Ala Lys Phe Gly Ser Gln His Phe Phe His Leu Ile Pro Asn Glu Ala
 355 360 365
 Thr Ile Cys Ser Leu Leu Leu Cys Asn Arg Asn Asp Thr Ala Trp Asp
 370 375 380
 Glu Leu Lys Leu Thr Cys Gln Thr Ala Leu His Val Leu Gln Leu Thr
 385 390 395 400
 Leu Lys Glu Pro Trp Ala Leu Leu Gly Gly Gly Cys Thr Glu Thr His
 405 410 415

Leu Ala Ala Tyr Ile Arg His Lys Thr His Asn Asp Pro Glu Ser Ile
 420 425 430
 Leu Lys Asp Asp Glu Cys Thr Gln Thr Glu Leu Gln Leu Ile Ala Glu
 435 440 445
 Ala Phe Cys Ser Ala Leu Glu Ser Val Val Gly Ser Leu Glu His Asp
 450 455 460
 Gly Gly Glu Ile Leu Thr Asp Met Lys Tyr Gly His Leu Trp Ser Val
 465 470 475 480
 Gln Ala Asp Ser Pro Cys Val Ala Asn Trp Pro Asp Leu Leu Ser Gln
 485 490 495
 Cys Gly Cys Gly Leu Tyr Asn Ser Gln Glu Glu Leu Asn Trp Ser Phe
 500 505 510
 Leu Arg Ser Thr Arg Arg Pro Phe Val Pro Gln Ser Cys Leu Pro His
 515 520 525
 Glu Ala Val Gly Ser Ala Ser Asn Leu Thr Leu Asp Cys Leu Thr Ala
 530 535 540
 Lys Leu Ser Gly Leu Gln Val Ala Val Glu Thr Ala Asn Leu Ile Trp
 545 550 555 560
 Asp Leu Ser Tyr Val Ile Glu Asp Lys Asn
 565 570

<210> 31
 <211> 1527
 <212> DNA
 <213> Homo sapiens

<400> 31
 cactccgctg gcggggctag cgcgggtttc agcgacggga gccctcaagg gacatggcaa 60
 ctacagcggc gccggcgggc ggcgccgaaa tggagctggc ccggaatggg gagggttcga 120
 agaaaacatc cagggcggag gctcagctgt gattgacatg gagaacatgg atgataacct 180
 aggtctctagc ttcgaggata tgggtgagct gcatcagcgc ctgcgcgagg aagaagtaga 240
 cgctgatgca gctgatgcag ctgctgctga agaggaggat ggagagtcc tgggcatgaa 300
 gggctttaag ggacagctga gccggcaggt ggcagatcag atgtggcagg ctgggaaaag 360
 acaagcctcc agggccttca gcttgtagc caacatcgac atcctcagac cctactttga 420
 tgtggagcct gctcaggtgc gaagcaggct cctggagtcc atgatcccta tcaagatggt 480
 caacttcccc cagaaaattg caggtgaact ctatggacct ctcatgctgg tcttcactct 540
 gggtgctatc ctactccatg ggatgaagac gtctgacact attatccggg agggcaccct 600
 gatgggcaca gccattggca cctgcttcgg ctactggctg ggagtctcat ccttcattta 660
 ctctcttgcc tacctgtgca acgcccagat caccatgctg cagatgttgg cactgctggg 720
 ctatggcctc tttgggcatt gcattgtcct gttcatcacc tataatatcc acctccacgc 780
 cctcttctac ctcttctggc ggttggtggg tggactgtcc aactgcgca tggtagcagt 840
 gttggtgtct cggaccgtgg gccccacaca gcgctgctc ctctgtggca ccctggctgc 900
 cctacacatg ctcttctgct tctatctgca tttgcctac cacaaagtgg tagaggggat 960
 cctggacaca ctggagggcc ccaacatccc gcccatccag aggggtcccca gagacatccc 1020
 tgccatgctc cctgctgctc ggcttccac caccgtcctc aacgccacag ccaaagctgt 1080
 tgcggtgacc ctgcagtcac actgacccca cctgaaattc ttggccagtc ctctttcccg 1140
 cagctgcaga gaggaggaag actattaaag gacagtcctg atgacatgtt tcgtagatgg 1200
 ggtttgacgc tgccactgag ctgtagctgc gtaagtacct ccttgatgcc tgtcggcact 1260
 tctgaaaggc acaaggccaa gaactcctgg ccaggactgc aaggctctgc agccaatgca 1320

gaaaatgggt cagctccttt gagaaccctt cccacacctt ccttccttc ctctttatct 1380
 ctcccacatt gtcttgctta aatatagaac ttggtcttaa aaaaaaaaaa aaaaaaaaaa 1440
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1500
 aaaaaaaaaa aaaaaaaaaa aaaaaaaa 1527

<210> 32
 <211> 315
 <212> PRT
 <213> Homo sapiens

<400> 32
 Met Glu Asn Met Asp Asp Thr Ser Gly Ser Ser Phe Glu Asp Met Gly
 1 5 10 15
 Glu Leu His Gln Arg Leu Arg Glu Glu Glu Val Asp Ala Asp Ala Ala
 20 25 30
 Asp Ala Ala Ala Ala Glu Glu Glu Asp Gly Glu Phe Leu Gly Met Lys
 35 40 45
 Gly Phe Lys Gly Gln Leu Ser Arg Gln Val Ala Asp Gln Met Trp Gln
 50 55 60
 Ala Gly Lys Arg Gln Ala Ser Arg Ala Phe Ser Leu Tyr Ala Asn Ile
 65 70 75 80
 Asp Ile Leu Arg Pro Tyr Phe Asp Val Glu Pro Ala Gln Val Arg Ser
 85 90 95
 Arg Leu Leu Glu Ser Met Ile Pro Ile Lys Met Val Asn Phe Pro Gln
 100 105 110
 Lys Ile Ala Gly Glu Leu Tyr Gly Pro Leu Met Leu Val Phe Thr Leu
 115 120 125
 Val Ala Ile Leu Leu His Gly Met Lys Thr Ser Asp Thr Ile Ile Arg
 130 135 140
 Glu Gly Thr Leu Met Gly Thr Ala Ile Gly Thr Cys Phe Gly Tyr Trp
 145 150 155 160
 Leu Gly Val Ser Ser Phe Ile Tyr Phe Leu Ala Tyr Leu Cys Asn Ala
 165 170 175
 Gln Ile Thr Met Leu Gln Met Leu Ala Leu Leu Gly Tyr Gly Leu Phe
 180 185 190
 Gly His Cys Ile Val Leu Phe Ile Thr Tyr Asn Ile His Leu His Ala
 195 200 205
 Leu Phe Tyr Leu Phe Trp Arg Leu Val Gly Gly Leu Ser Thr Leu Arg
 210 215 220
 Met Val Ala Val Leu Val Ser Arg Thr Val Gly Pro Thr Gln Arg Leu
 225 230 235 240
 Leu Leu Cys Gly Thr Leu Ala Ala Leu His Met Leu Phe Leu Leu Tyr
 245 250 255
 Leu His Phe Ala Tyr His Lys Val Val Glu Gly Ile Leu Asp Thr Leu

260

265

270

Glu Gly Pro Asn Ile Pro Pro Ile Gln Arg Val Pro Arg Asp Ile Pro
275 280 285

Ala Met Leu Pro Ala Ala Arg Leu Pro Thr Thr Val Leu Asn Ala Thr
290 295 300

Ala Lys Ala Val Ala Val Thr Leu Gln Ser His
305 310 315

<210> 33

<211> 988

<212> DNA

<213> Homo sapiens

<400> 33

caaggctata gtaactaaaa gagaatagta ctgggtacaaa aataggatca gatcaatgta 60
acagagtaga gaaccagca ataaagccat gtgcctgcaa ccaactgac tttgataaag 120
ttgagaaaaa taaacaatga agaaaagaca ctgtattcaa taaatgttg taggaaaatt 180
ggctagccat atacagaaaa atgaaactga acccgatat ctcaactttat acaaaaatta 240
agttggatta aagacttaaa tgtaaaacct gatactataa aaattataga agaaaaccca 300
ggaaaagctc ttctggacac tggcctaggc aaagaattta tgactaagtc atcaaaagca 360
tatgtaacaa aaaaaaaaaa aaagcgcccg ggtgaggggc ggagctggg gcctggcgctc 420
cggagcggct cgctggctag tattggcacc cgtcaggtcc ggggctctcc ggagcgggcc 480
tagcttgagg aaagatggcg atgtctccgc cgcctggagc ggctcaggcc ggagcctggt 540
accgtcgagg tcagtcacg ttaccgcag cggcgccatt ttgcccacac cggtgaaaat 600
gtccttcggc ctctctccgt tggtctccat tgtgatcccc tttctctatg tcgggacact 660
cattagcaag aactttgctg ctctacttga ggaacatgac atttttgttc cagaggatga 720
tgatgatgat gactaacagg aattacagaa aggagaaagc actaactgaa gaaatggtga 780
tgctctcagt ttctctgcct tccctatcag cagaaaggct cggggaaggc cctcagcctc 840
ccagctctgtt gaagcttctt gtatggtcca tgaccgtatt ccacccagg ctctgggagg 900
ctcctgaga tgtgctgtcc actaagcact gcacaaacaa gcaatcaaat tatgaataaa 960
cataataaat atcaaaaaaa aaaaaaaaa 988

<210> 34

<211> 107

<212> PRT

<213> Homo sapiens

<400> 34

Met Ala Ser Gly Ala Ala Arg Trp Leu Val Leu Ala Pro Val Arg Ser
1 5 10 15

Gly Ala Leu Arg Ser Gly Pro Ser Leu Arg Lys Asp Gly Asp Val Ser
20 25 30

Ala Ala Trp Ser Gly Ser Gly Arg Ser Leu Val Pro Ser Arg Ser Val
35 40 45

Ile Val Thr Arg Ser Gly Ala Ile Leu Pro Lys Pro Val Lys Met Ser
50 55 60

Phe Gly Leu Leu Arg Val Phe Ser Ile Val Ile Pro Phe Leu Tyr Val
65 70 75 80

Gly Thr Leu Ile Ser Lys Asn Phe Ala Ala Leu Leu Glu Glu His Asp
85 90 95

Ile Phe Val Pro Glu Asp Asp Asp Asp Asp Asp
 100 105

<210> 35
 <211> 1759
 <212> DNA
 <213> Homo sapiens

<400> 35
 tttttttttt tgagggtgtaa tgcaacttca tcacttttatt caaatcttca aaatagtctt 60
 tattctacat ttttagtata aaaattccac aagttaagtg caccacagtg tagagagaga 120
 catacaacgc tgaacttcca taacagtcaa tggtagagtc aaacatcaca tgtacagaac 180
 acacaattta gatgaactga aattataaga taaaataaaa taaatccaa tttcagaaaa 240
 caaaaatcaa aacattaagg atccctgaaa tattctttaa ccctaagtga atttcaactgg 300
 actcaagtca tttttagtg agacattcac aatatgacct tatcaacca gtctaggaat 360
 tctggggagc cgaatgagtg gccgcatcag acactctgac aaaaaatggg aaccaatttt 420
 tgatctgaaa actcctctta atttagctct gaacacagag atttatccaa gtgccagatt 480
 actcagtgct ataattttct tttagttaaa caaagggggg cagacagaca ttgcatcatc 540
 cagacatgcc ttgttggaca ttagaatacc gatggagcac tgcacaccag aatgattggc 600
 caatgagcag cttctctccc tgaaacaata actgcccatt tggcaaaggg aaagatgaca 660
 ataatcagaa gaagaaaatg aatgggatgc ataccataga cgaacgaggc ggagactatt 720
 gcgggaatct tactgttcag gagctgttcc tagaactaac tcccttactg tcattgatgt 780
 gcattccact ctgtgctttt ctgtacaacc attcaagttt taatttccca ggtgaaccat 840
 ctttatctgc cattaccaca agctttcaag tttccagtta ttttcatcat cataaccagt 900
 acggtgctat tatttaccta tgtacgtgta gttatgtata attttgaat tagttacaat 960
 ggtaaaaaaa atcgaaatat ataaaaagtg atttgtacag aactttattt tagctctttt 1020
 ttaaaaatga tttgcatggt tagaaaacgg cgaggacagc caggggaggg aagggcctct 1080
 aggggaacttt gcactttcta taacctttgt acttatgcca ctgccctatt tgattctaca 1140
 cccaataatg attattactt gaaaccatc tgtaagaaac tgcttcggaa attcatttgt 1200
 gtgtatgtaa ataacacaac atagaaacag gaagggaaaa aaagtctgca gtaatgcacg 1260
 tatttttttc tttcctgttt attttcgggt ttgctttaag tccttttatt ttttaattccc 1320
 tttttgtttt tctttttggg ttttgggtcc ttttgggttt atgggtgccc tgatactcca 1380
 gcagagatca gaaggctaca gatccattct atccatccgt tatgtggctt tgccatccca 1440
 gcttggagtg tctttacaaa gataataaca gttgtgttct ttgctctcgt tttggatgca 1500
 tagactgaaa aattaaaaca aataacttgt aaaatggctt gttaaaaaat acaattacct 1560
 ctaattagta gtacgcgtaa atgttttaca gaatgaaagg cgtgcttttt attttcttac 1620
 ttcgttacat tgggtggcga agaagtctgt atgaaaatca gttctttgct gacacaagtt 1680
 ccatttggtta caaatgaatt ctaataaaaa tgtcagtgtt aaaaaaaaaa aaaaaaaaaa 1740
 aaaaaaaaaa aaaaaaaaaa 1759

<210> 36
 <211> 87
 <212> PRT
 <213> Homo sapiens

<400> 36
 Met Asn Gly Met His Thr Ile Asp Glu Arg Gly Gly Asp Tyr Cys Gly
 1 5 10 15
 Asn Leu Thr Val Gln Glu Leu Phe Leu Glu Leu Thr Pro Leu Leu Ser
 20 25 30
 Leu Met Cys Ile Pro Leu Cys Ala Phe Leu Tyr Asn His Ser Ser Phe
 35 40 45
 Asn Phe Pro Gly Glu Pro Ser Leu Ser Ala Ile Thr Thr Ser Phe Gln
 50 55 60
 Val Ser Ser Tyr Phe His His His Asn Gln Tyr Gly Ala Ile Ile Tyr

65

70

75

80

Leu Cys Thr Cys Ser Tyr Val
85

<210> 37

<211> 643

<212> DNA

<213> Homo sapiens

<400> 37

tcagcctccg cctccgagcc tcagttgtct tctctgtgag gtgggaatgc cggatgaatcc 60
tgccgctggc gtggatgaga agtgaatgcg tgctcggagc tgcgagtgc agcgggcagg 120
aggcgcccag ggacacttgg tttctccagg gctggaaggc ttctagaagg ttctcatca 180
agggaagtgt ggctgggggc gccgtctacc tgggttacga ccaggagctg ctggggccca 240
gcgacaagag ccaggcagcc ctacagaagg ctggggagggt ggtccccccc gccatgtacc 300
agttcagcca gtacgtgtgt cagcagacag gcctgcagat accccagctc ccagcccctc 360
caaagattta ctttcccatc cgtgactcct ggaatgcagg catcatgacg gtgatgtcag 420
ctctgtcggg ggccccctcc aaggcccgcg agtactccaa ggagggtctg gagtatgtga 480
aggcgcgcac caagtagcga gtcagcaggg gccgcctgcc ccggccagaa cgggcagggc 540
tgccactgac ctgaagactc cggactggga cccactccg agggcagctc ccggccttgc 600
cggccaata aaggacttca gaagtgaata aaaaaaaaaa aaa 643

<210> 38

<211> 140

<212> PRT

<213> Homo sapiens

<400> 38

Met Arg Ser Glu Cys Val Leu Gly Ala Ala Ser Asp Ser Gly Gln Glu
1 5 10 15

Ala Pro Arg Asp Thr Trp Phe Leu Gln Gly Trp Lys Ala Ser Arg Arg
20 25 30

Phe Leu Ile Lys Gly Ser Val Ala Gly Gly Ala Val Tyr Leu Val Tyr
35 40 45

Asp Gln Glu Leu Leu Gly Pro Ser Asp Lys Ser Gln Ala Ala Leu Gln
50 55 60

Lys Ala Gly Glu Val Val Pro Pro Ala Met Tyr Gln Phe Ser Gln Tyr
65 70 75 80

Val Cys Gln Gln Thr Gly Leu Gln Ile Pro Gln Leu Pro Ala Pro Pro
85 90 95

Lys Ile Tyr Phe Pro Ile Arg Asp Ser Trp Asn Ala Gly Ile Met Thr
100 105 110

Val Met Ser Ala Leu Ser Val Ala Pro Ser Lys Ala Arg Glu Tyr Ser
115 120 125

Lys Glu Gly Trp Glu Tyr Val Lys Ala Arg Thr Lys
130 135 140

<210> 39

<211> 2015

<212> DNA

<213> Homo sapiens

<400> 39

```
aggctgtctg ctatgcagaa ttgcctcaaa aagagtctag aagatgttgt cattgacatc 60
cagtcacatc tttctaaggg aatcagaggc aatgagcccg tatatacttc aactcaagaa 120
gactgcatta attcttgctg ttcaacaaaa aacatatcag gggacaaaagc atgtaacttg 180
atgatcttcg aacttcgaaa aacagctaga caacccaact gctacctatt tttctgtccc 240
aacgaggaag cctgtccatt gaaaccagca aaaggactta tgagttacag gataattaca 300
gattttccat ctttgaccag aaatttgcca agccaagagt taccacagga agattctctc 360
ttacatggcc aattttcaca agcagtcact cccctagccc atcatcacac agattattca 420
aagcccaccg atatctcatg gagagacaca ctttctcaga agtttggatc ctcagatcac 480
ctggagaaac tatttaagat ggatgaagca agtgcccagc tccttgctta taaggaaaaa 540
ggccattctc agagttcaca attttctctc gatcaagaaa tagctcatct gctgcctgaa 600
aatgtgagtg cgctcccagc tacgggtggc gttgcttctc cacataccac ctccggctact 660
ccaaagcccg ccaccctctc acccaccaat gcttcagtga cacctctctg gacttcccag 720
ccacagctgg ccaccacagc tccacctgta accactgtca cttctcagcc tcccacgacc 780
ctcatttcta cagtttttac acgggctgcy gctacactcc aagcaatggc tacaacagca 840
gttctgacta ccaccttca ggcacctacg gactcgaaag gcagcttaga aaccataccg 900
tttacagaaa tctccaactt aactttgaac acagggaatg tgtataaccc tactgcactt 960
tctatgtcaa atgtggagtc ttccactatg aataaaaactg cttcctggga aggtagggag 1020
gccagtcagc gcagttcctc cccagggcag tgttccagaa aatcagtagc gccttccatt 1080
tgaaaaatgg cttcttatcg ggtccctgct ctttgggtgc ctgttccctg tgataggcct 1140
cgctctctcg ggtagatcct ctcggaatca ctcgcagga aacgttactc aagactggat 1200
tatttgatca atgggatcta tgtggacatc taaggatgga actcgggtgc tcttaattca 1260
tttagtaacc agaagcccaa atgcaatgag tttctgctga cttgctagtc ttagcaggag 1320
gttgatattt gaagacagga aaatgcccc ttctgcttct cttttttttt ttggagacag 1380
agtcttgctc tgttggccag gctggagtgc agtagcacga tctcggctct caccgcaacc 1440
tccgtctcct gggttcaagc gattctctcg cctcagcctc ctagtatctg ggattacagg 1500
catgtgccac cacacctggg tgatttttgt atttttagta gagacgggtt tcaccatggt 1560
ggtcaggctg gtctcaaaact cctgacctag tgatccacc cctcggcct cccaaagtgc 1620
tgggataaca ggcagtagcc accacagctg gccccttct gttttatggt tggtttttga 1680
gaaggaatga atggggaacc aaattaggtt attttgggta atctgtctct aaaatattag 1740
ctgaaaacaa agctgtatgt aaagtaataa ggtataattg ccatataaat ttcaaaattc 1800
aactggcttt tatgcaaaga aacagggttag gacatctagg ttccaattca ttcacattct 1860
tggttccaga taaaatcaac tgtttatatc aatttctaag ggatttgcct ttctttttat 1920
atggattcct ttaaaactta ttccagatgt agttccttcc aattaaatat ttgaataaat 1980
cttttgttac tcaaaaaaaa aaaaaaaaaa aaaaaa 2015
```

<210> 40

<211> 300

<212> PRT

<213> Homo sapiens

<400> 40

```
Met Ile Phe Asp Thr Arg Lys Thr Ala Arg Gln Pro Asn Cys Tyr Leu
  1             5             10             15

Phe Phe Cys Pro Asn Glu Glu Ala Cys Pro Leu Lys Pro Ala Lys Gly
      20             25             30

Leu Met Ser Tyr Arg Ile Ile Thr Asp Phe Pro Ser Leu Thr Arg Asn
      35             40             45

Leu Pro Ser Gln Glu Leu Pro Gln Glu Asp Ser Leu Leu His Gly Gln
      50             55             60

Phe Ser Gln Ala Val Thr Pro Leu Ala His His His Thr Asp Tyr Ser
      65             70             75             80
```

Lys Pro Thr Asp Ile Ser Trp Arg Asp Thr Leu Ser Gln Lys Phe Gly
 85 90 95
 Ser Ser Asp His Leu Glu Lys Leu Phe Lys Met Asp Glu Ala Ser Ala
 100 105 110
 Gln Leu Leu Ala Tyr Lys Glu Lys Gly His Ser Gln Ser Ser Gln Phe
 115 120 125
 Ser Ser Asp Gln Glu Ile Ala His Leu Leu Pro Glu Asn Val Ser Ala
 130 135 140
 Leu Pro Ala Thr Val Ala Val Ala Ser Pro His Thr Thr Ser Ala Thr
 145 150 155 160
 Pro Lys Pro Ala Thr Leu Leu Pro Thr Asn Ala Ser Val Thr Pro Ser
 165 170 175
 Gly Thr Ser Gln Pro Gln Leu Ala Thr Thr Ala Pro Pro Val Thr Thr
 180 185 190
 Val Thr Ser Gln Pro Pro Thr Thr Leu Ile Ser Thr Val Phe Thr Arg
 195 200 205
 Ala Ala Ala Thr Leu Gln Ala Met Ala Thr Thr Ala Val Leu Thr Thr
 210 215 220
 Thr Phe Gln Ala Pro Thr Asp Ser Lys Gly Ser Leu Glu Thr Ile Pro
 225 230 235 240
 Phe Thr Glu Ile Ser Asn Leu Thr Leu Asn Thr Gly Asn Val Tyr Asn
 245 250 255
 Pro Thr Ala Leu Ser Met Ser Asn Val Glu Ser Ser Thr Met Asn Lys
 260 265 270
 Thr Ala Ser Trp Glu Gly Arg Glu Ala Ser Pro Gly Ser Ser Ser Pro
 275 280 285
 Gly Gln Cys Ser Arg Lys Ser Val Arg Pro Ser Ile
 290 295 300

<210> 41

<211> 1549

<212> DNA

<213> Homo sapiens

<400> 41

tgatcctaataaactgcac atgaagaaac taaaactgtc ttatcagata cagaagaaat 60
 aaaaccacag acaaaaaagg agacatacat ttcttgtcct ctaagaggag tattgaatgt 120
 aattattaca aatggaggtta tactgtttgt gatatgggtgt atgacctggt caatcttagg 180
 ctctgaagct ctccctggtg gaaatttatt tgggttggtc attatttttt atagtgccat 240
 tattggggga aaaattttac aactcattag aataccttta gtgcctccac ttccacctct 300
 tcttgggatg ttactggctg gttttacgat taggaatggt ccattcatca atgaacatgt 360
 ccattgttct aacacatggt cttcaatttt aagaagcatt gcccttacca ttattctaata 420
 aagagctggg cttggactcg atccacagge tttgaggcat ttgaaggctg tttgtttcag 480
 attggctgta ggtccatgcc ttatggagge aagtgcagct gctgtttttt cacacttcat 540
 tatgaaattt ccctggcaat gggcatttct attagggttt gttctagggt ctgtctctcc 600
 tgcgtgtgtt gtcacctaca tgatgggtgt gcaagaaaat ggatatggtg ttgaggaagg 660

cattccaacc ttattaatgg ctgctagcag tatggatgac attctggcta tcaactggatt 720
caatacatgc ttgagcatag tcttttcctc aggtggtata ctttaataacg ccatagcctc 780
tataaggaac gtatgtatta gtctgctggc aggaattggt ttgggatttt ttgttcgata 840
ttttccaagt gaagaccaga aaaaacttac attgaagaga ggattccttg ttttgactat 900
gtgtgtttct gccgtcttag gcagccaacg tattggttta catggatctg gaggattatg 960
cacactagtg ttgagtttca ttgcagggac aaaatgggtcc caagaaaaga tgaaagtcca 1020
aaagattatt acgactgtat gggatatttt tcaaccactt ctttttggtt tagttggagc 1080
agaagtatct gtttcatcgc ttgaatcaaa tattgttggc atatctgttg ccaactctaag 1140
tttggcatta tgtgttcgaa ttttaaccac atatctattg atgtgctttg ctgggttttag 1200
ttttaaggag aaaatattta ttgcttttagc atggatgccc aaagctacag tacagattaa 1260
tcaagctatc cttctgttgt ttcttcttcg ggaggaatgg acgaactgca aggtagccaa 1320
gaagtgcgag tacaccaagg aaaggcaata accgaagcca ttctgaaact aaacatgtag 1380
atgtgtcaga atctgcagtg ctcttggaag agaattcaaa atagcatgtc gtttcatcct 1440
tgagcttatt ctttggttact ttttacatta attccttttt aatggatcca taaaactgtg 1500
aataaataac acaataaagc cagctctacc aaaaaaaaaa aaaaaaaaaa 1549

<210> 42

<211> 396

<212> PRT

<213> Homo sapiens

<400> 42

Met	Thr	Trp	Ser	Ile	Leu	Gly	Ser	Glu	Ala	Leu	Pro	Gly	Gly	Asn	Leu
1				5					10					15	
Phe	Gly	Leu	Phe	Ile	Ile	Phe	Tyr	Ser	Ala	Ile	Ile	Gly	Gly	Lys	Ile
			20					25						30	
Leu	Gln	Leu	Ile	Arg	Ile	Pro	Leu	Val	Pro	Pro	Leu	Pro	Pro	Leu	Leu
		35				40						45			
Gly	Met	Leu	Leu	Ala	Gly	Phe	Thr	Ile	Arg	Asn	Val	Pro	Phe	Ile	Asn
	50					55					60				
Glu	His	Val	His	Val	Pro	Asn	Thr	Trp	Ser	Ser	Ile	Leu	Arg	Ser	Ile
	65				70					75				80	
Ala	Leu	Thr	Ile	Ile	Leu	Ile	Arg	Ala	Gly	Leu	Gly	Leu	Asp	Pro	Gln
			85						90					95	
Ala	Leu	Arg	His	Leu	Lys	Val	Val	Cys	Phe	Arg	Leu	Ala	Val	Gly	Pro
		100						105					110		
Cys	Leu	Met	Glu	Ala	Ser	Ala	Ala	Ala	Val	Phe	Ser	His	Phe	Ile	Met
	115						120					125			
Lys	Phe	Pro	Trp	Gln	Trp	Ala	Phe	Leu	Leu	Gly	Phe	Val	Leu	Gly	Ala
	130					135					140				
Val	Ser	Pro	Ala	Val	Val	Val	Pro	Tyr	Met	Met	Val	Leu	Gln	Glu	Asn
145				150						155				160	
Gly	Tyr	Gly	Val	Glu	Glu	Gly	Ile	Pro	Thr	Leu	Leu	Met	Ala	Ala	Ser
			165					170					175		
Ser	Met	Asp	Asp	Ile	Leu	Ala	Ile	Thr	Gly	Phe	Asn	Thr	Cys	Leu	Ser
		180					185					190			
Ile	Val	Phe	Ser	Ser	Gly	Gly	Ile	Leu	Asn	Asn	Ala	Ile	Ala	Ser	Ile
	195						200					205			

Arg Asn Val Cys Ile Ser Leu Leu Ala Gly Ile Val Leu Gly Phe Phe
 210 215 220
 Val Arg Tyr Phe Pro Ser Glu Asp Gln Lys Lys Leu Thr Leu Lys Arg
 225 230 235 240
 Gly Phe Leu Val Leu Thr Met Cys Val Ser Ala Val Leu Gly Ser Gln
 245 250 255
 Arg Ile Gly Leu His Gly Ser Gly Gly Leu Cys Thr Leu Val Leu Ser
 260 265 270
 Phe Ile Ala Gly Thr Lys Trp Ser Gln Glu Lys Met Lys Val Gln Lys
 275 280 285
 Ile Ile Thr Thr Val Trp Asp Ile Phe Gln Pro Leu Leu Phe Gly Leu
 290 295 300
 Val Gly Ala Glu Val Ser Val Ser Ser Leu Glu Ser Asn Ile Val Gly
 305 310 315 320
 Ile Ser Val Ala Thr Leu Ser Leu Ala Leu Cys Val Arg Ile Leu Thr
 325 330 335
 Thr Tyr Leu Leu Met Cys Phe Ala Gly Phe Ser Phe Lys Glu Lys Ile
 340 345 350
 Phe Ile Ala Leu Ala Trp Met Pro Lys Ala Thr Val Gln Ile Asn Gln
 355 360 365
 Ala Ile Leu Leu Leu Phe Leu Leu Arg Glu Glu Trp Thr Asn Cys Lys
 370 375 380
 Val Ala Lys Lys Cys Glu Tyr Thr Lys Glu Arg Gln
 385 390 395

<210> 43
 <211> 4433
 <212> DNA
 <213> Homo sapiens

<400> 43
 ggctcaagta gcggacacgg aacagggaac tatcagcccg tcggcctccg ggccctgcat 60
 tctctagcca tggaccggga ccttttgagg cagtcgctaa attgccacgg gtcgtctttg 120
 ctctctctac ttcggagcga acagcaggac aatccacact tccgtagcct cctgggggtcg 180
 gccgcccagc cagcccgggg cccgcccgcc cagcaccggt tgcagggcag aaaagagaag 240
 agagttgaca acatcgagat acagaaattc atctccaaaa aagcggatct gctttttgca 300
 ctttcttgga aatcagatgc acctgcaact tctgaaatta atgaagacag tgaagatcat 360
 tatgcaatca tgccaccttt agagcaattc atggagatac ctagtatgga tcggagagag 420
 ctgtttttcc gagatattga gcgtggtgat atagtattg gaagaattag ttctattcgg 480
 gaattcgggt ttttcatggt gttgatctgt ttaggaagtg gtatcatgag agatatagcc 540
 cacttagaaa tcacagctct ttgtccctta agagatgtgc cttctcacag taaccatggg 600
 gatcctttat catattacca aactggtgac atcattcgag ctggaatcaa ggatattgac 660
 agataccatg aaaagctagc agtatctctg tatagctctt ctcttccacc acacctatct 720
 ggtattaaat taggtgtaat tagctctgaa gagcttccct tatactacag gagaagtgtt 780
 gagctaaata gcaattcttt ggagtcctat gaaaatgtca tgcagagttc cttgggattt 840
 gttaatccag gagtagttga attccttcta gaaaaactag gaatagatga atctaattcca 900
 ccatctttaa tgagaggcct acaaagcaaa aatttctctg aagatgattt tgcttctgca 960

ttgagaaaa	aacaatccgc	atcttgggct	ttaaaatgtg	tgaagatcgg	agttgactat	1020
tttaaagttg	gacgccatgt	ggatgctatg	aatgaataca	ataaagcttt	ggaatatagac	1080
aaacaaaacg	tggaagcttt	ggtagctcgt	ggagcattat	atgcgacaaa	aggaagtttg	1140
aacaaaagcaa	tagaagattt	tgagcttgca	ttagaaaact	gtccaactca	cagaaatgca	1200
agaaaatacc	tctgccagac	acttgtagag	agaggaggac	agttagaaga	agaagaaaag	1260
tttttaaatg	ctgaaagtta	ctataagaaa	gccttggcct	tggatgagac	ttttaaagat	1320
gcagaggatg	ctttgcagaa	acttcataaa	tatatgcagg	tgattcctta	tttctcttta	1380
gaaattttagt	gatatttgaa	ataatgcccc	aacttaattt	tctcctgagg	aaaaactatt	1440
ctacattact	taagtaaggc	attatgaaaa	gtttcttttt	aggtatagtt	tttcttaatt	1500
gggtttgaca	ttgcttcata	gtgcctctgt	ttttgtccat	aatcgaaaag	aaagatagct	1560
gtgagaaaac	tattacctaa	atttggtatg	ttgttttgag	aaatgtcctt	ataggagagct	1620
cacctggtgg	tttttaaat	attgttgcta	ctataattga	gctaattata	aaaacctttt	1680
tgagacatat	tttaaattgt	cttttctgt	aatactgatg	atgatgtttt	ctcatgcatt	1740
ttcttctgaa	ttggaccatt	gctgctgtgt	ctgtgacatc	tggtgctgct	catccccatc	1800
cacaaactgg	aaaatgattt	cctatgtaat	catgcattca	actgggctgt	gctatttttt	1860
taaatggttt	gtatttgaac	atgggtgattc	ctccttcact	tcaccttaac	ggaatgtcct	1920
tatttgaatt	ttatttgtaa	aatgtgtcct	gtttaaattt	ttcaatcttt	aaaaataatt	1980
tttatgtact	ttttttttt	tttaaccttt	cttgactctt	gggtcatggg	taccactgca	2040
atggcttccc	ctttttttat	gggataccaa	ctgcaatatg	gtcctcaatg	ctgttctggc	2100
catttcaatg	actaatgccca	aacatctgta	tgactaattt	ttttatgtta	aaaaataact	2160
gtttaatgct	ggctctatgg	tgatttggtt	ttactaaatt	gggtttctcg	ttgggggtgg	2220
tcttttgaat	actgggtttt	atatattctg	ctatttttaa	cgtgtgggtt	ttttcgatat	2280
ctgggttcta	aaagaaatct	ttggaattaa	gagaaaaaca	agctgaaaaa	gaagaaaagc	2340
agaaaacaaa	gaaaatagaa	acaagtgcag	aaaagttgag	taagctctta	aaagaagaga	2400
agaggtaaac	tataatattc	agtattttta	aacttaaggc	actactgaat	tgaacccaaa	2460
gtgccatact	ggaagtaaa	taaataaaaa	tatgaaagta	tttcaagtgc	caatcagtga	2520
ctgttaagaa	tctttagcaa	atatgtgttc	catgtatttc	ctattaaaga	gatgaagtgg	2580
aatttaaggc	tgaattctac	aaaaaagagt	acttagaaat	taaaatatag	aaaaagttac	2640
ttcaattatg	tttttaggaag	aaatattttt	aaaactagag	cagtgggtctc	actaggaggt	2700
gagttcatca	gaccggaccc	ttgacagatt	atttggctga	aaataaccaat	aatcaggtga	2760
agaaaccatg	aactagaggt	agccaaataa	aaaagttgag	ttctccttta	tgtgttcagt	2820
agtcttaagt	ttttaaggta	gtgttgaaaa	aagtctgtct	ttcagagatg	atggatttgc	2880
ttacaatgat	acctgtctgc	aagcattttt	tcccccaaaa	gtgcttaata	gtaaaattag	2940
atctttagt	agccgagatt	attgtatcat	ttatctgaac	cacagctttt	ataaaatctt	3000
taaaggaaac	aaatagggcc	cacatcttta	tgaataattt	agaaacattt	ttgtatatat	3060
atgacaaatg	aactgttttt	tttaggctaa	agaagaaaag	aagaaaaatca	acttcttctt	3120
caagtgtttc	ttctgtgat	gaatcagttg	cttcacatc	atcctcttcc	tcttctggtc	3180
acaaaaggca	taagaaacat	aagaggaaac	gttcagagtc	ttctcgagtc	tccagaaggc	3240
attcatctag	ggcatcctca	aatcagatag	atcagaatag	gaaagatgag	tgctaccag	3300
ttccagctaa	tacttcagca	tcttttctta	accataaaca	agaagtggag	aaactactgg	3360
ggaagcagga	taggttacag	tatgaaaaga	cacagataaa	agagaaaagat	agacgccctc	3420
tctcttcac	ttcacttgaa	ataccggatg	attttgaggt	gtactcctat	ttatttaaaa	3480
agttaactat	aaaacagcct	caggcaggtc	cttcaggaga	tattccagaa	gagggcattg	3540
ttatcataga	tgacagctcc	attcatgtta	ctgaccctga	agaccttcaa	gtgggacaag	3600
atatggaggt	ggaagacagt	ggtattgatg	atcctgacca	cgggtaggct	taggtttatg	3660
tgtgtgtatg	tgtcttagtt	tttaacaaaa	aaattaaaaa	gtaaaaaaac	taaaaataga	3720
aaaatgctta	gagaataagg	atataaagaa	tatttttgtg	cagttgaaca	atgagtgtct	3780
aagctaaatg	tcatcacaaa	agagtaaaaa	aatttttcaa	aattaaaaat	gtttaaagtt	3840
aaaaagctct	aggaagctaa	ggtcaattta	ttattggaga	aataaaaatta	tttttatgaa	3900
tttactgtag	cctagggtga	cattatttat	catgtctaca	gtagtgttca	gcaattagtc	3960
cttcacattc	tctcaccact	cactcactca	gtcactcacc	cagagcagct	tccagtcctg	4020
caagctccat	ttatggtaag	tgccctgtac	aggtgtacca	tttttttaat	ccattatacc	4080
atatttttat	tgtacctttt	ctatgttttag	atgtgttttag	atacacaagt	accactgtgt	4140
tacagttgcc	tatagtactc	agtacagtaa	cacactttac	aagcttatag	cctaggaaca	4200
ataggctata	ccatctaggt	ttgtgttaagt	acactcttat	gatgttcaca	cagtgcacaa	4260
atgcaccaag	gatgcattca	tcagaacaca	ttcccattgt	tatccaatgc	atgactgtat	4320
aatggtttta	tggattaaat	tttttatgta	attcaactgg	aaagtatttt	tatgttattt	4380
tggaaaaaat	aaaacaatga	caattggaaa	aaaaaaaaaa	aaaaaaaaaa	aaa	4433

<211> 439

<212> PRT

<213> Homo sapiens

<400> 44

Met Asp Arg Asp Leu Leu Arg Gln Ser Leu Asn Cys His Gly Ser Ser
1 5 10 15
Leu Leu Ser Leu Leu Arg Ser Glu Gln Gln Asp Asn Pro His Phe Arg
20 25 30
Ser Leu Leu Gly Ser Ala Ala Glu Pro Ala Arg Gly Pro Pro Pro Gln
35 40 45
His Pro Leu Gln Gly Arg Lys Glu Lys Arg Val Asp Asn Ile Glu Ile
50 55 60
Gln Lys Phe Ile Ser Lys Lys Ala Asp Leu Leu Phe Ala Leu Ser Trp
65 70 75 80
Lys Ser Asp Ala Pro Ala Thr Ser Glu Ile Asn Glu Asp Ser Glu Asp
85 90 95
His Tyr Ala Ile Met Pro Pro Leu Glu Gln Phe Met Glu Ile Pro Ser
100 105 110
Met Asp Arg Arg Glu Leu Phe Phe Arg Asp Ile Glu Arg Gly Asp Ile
115 120 125
Val Ile Gly Arg Ile Ser Ser Ile Arg Glu Phe Gly Phe Phe Met Val
130 135 140
Leu Ile Cys Leu Gly Ser Gly Ile Met Arg Asp Ile Ala His Leu Glu
145 150 155 160
Ile Thr Ala Leu Cys Pro Leu Arg Asp Val Pro Ser His Ser Asn His
165 170 175
Gly Asp Pro Leu Ser Tyr Tyr Gln Thr Gly Asp Ile Ile Arg Ala Gly
180 185 190
Ile Lys Asp Ile Asp Arg Tyr His Glu Lys Leu Ala Val Ser Leu Tyr
195 200 205
Ser Ser Ser Leu Pro Pro His Leu Ser Gly Ile Lys Leu Gly Val Ile
210 215 220
Ser Ser Glu Glu Leu Pro Leu Tyr Tyr Arg Arg Ser Val Glu Leu Asn
225 230 235 240
Ser Asn Ser Leu Glu Ser Tyr Glu Asn Val Met Gln Ser Ser Leu Gly
245 250 255
Phe Val Asn Pro Gly Val Val Glu Phe Leu Leu Glu Lys Leu Gly Ile
260 265 270
Asp Glu Ser Asn Pro Pro Ser Leu Met Arg Gly Leu Gln Ser Lys Asn
275 280 285
Phe Ser Glu Asp Asp Phe Ala Ser Ala Leu Arg Lys Lys Gln Ser Ala

290 295 300
 Ser Trp Ala Leu Lys Cys Val Lys Ile Gly Val Asp Tyr Phe Lys Val
 305 310' 315 320
 Gly Arg His Val Asp Ala Met Asn Glu Tyr Asn Lys Ala Leu Glu Ile
 325 330 335
 Asp Lys Gln Asn Val Glu Ala Leu Val Ala Arg Gly Ala Leu Tyr Ala
 340 345 350
 Thr Lys Gly Ser Leu Asn Lys Ala Ile Glu Asp Phe Glu Leu Ala Leu
 355 360 365
 Glu Asn Cys Pro Thr His Arg Asn Ala Arg Lys Tyr Leu Cys Gln Thr
 370 375 380
 Leu Val Glu Arg Gly Gly Gln Leu Glu Glu Glu Lys Phe Leu Asn
 385 390 395 400
 Ala Glu Ser Tyr Tyr Lys Lys Ala Leu Ala Leu Asp Glu Thr Phe Lys
 405 410 415
 Asp Ala Glu Asp Ala Leu Gln Lys Leu His Lys Tyr Met Gln Val Ile
 420 425 430
 Pro Tyr Phe Leu Leu Glu Ile
 435

<210> 45
 <211> 4017
 <212> DNA
 <213> Homo sapiens

<400> 45
 acactggcaa agtacatacc ctactcactg tggaagtatt cggtgttatc cggtcactca 60
 tggccttttag gctgacaggt ggcaccaaag actacattgt agttggcagt gactctggtc 120
 gaattgttat tttggaatac cagccatcta agaatatgtt tgagaagatt caccaagaaa 180
 cctttggcaa gaggatgag agtcgcatcg ttcttgccca gttcttagct gtggatccca 240
 aagggcgagc cgttatgatt agtgccattg agaaacagaa attgggtgat attttgaaca 300
 gagatgctgc agcccgaact accatttcat ctcccctgga agcccacaaa gcaaacactt 360
 tagtgtatca tggatgttga gtagatgtcg gatttgaaaa tccaatgttt gcttgtcttg 420
 aaatggatta tgaggaaagca gacaatgac caacagggga agcagcagct aatacccgagc 480
 agacacttac tttctatgag ctagacctg gtttaaatca tgtggtccga aaatacagtg 540
 aacctttgga ggaacacggc aacttcctta ttacagttcc aggaggggtca gatggtccaa 600
 gtggagtact gatctgctct gaaaactata ttacttaca gaactttggt gaccagccag 660
 atatccgctg tccaattccc aggagggcga atgacctgga tgaccttgaa agaggaatga 720
 ttttgtctg ctctgcaacc cataaaacca aatcgatgtt cttctttttg gctcaaactg 780
 agcagggaga tatctttaag atcactttgg agacagatga agatatggtt actgagatcc 840
 ggctcaaata ttttgatact gtaccggtg ctgctgccat gtgtgtgctt aaaacagggt 900
 tcctttttgt agcatcagaa tttgaaacc attacttata tcaaattgca catcttgag 960
 atgatgatga agaacctgag ttttcatcag ccatgcctct ggaagaagga gacacattct 1020
 tttttcagcc aagaccactt aaaaaccttg tgctggttga tgagttggac agcctctctc 1080
 ccattctgtt ttgccagata gctgatctgg ccaatgaaga tactccacag ttgtatgttg 1140
 cctgtggtag gggaccccca tcatctctga gagtcctaag acatggactt gaggtgtcag 1200
 aaatggctgt ttctgagcta cctggttaacc ccaacgctgt ctggacagtg cgtcgacaca 1260
 ttgaagatga gtttgatgcc tacatcattg tgtctttcgt gaatgccacc ctagtgttgt 1320
 ccattggaga aactgtagaa gaagtgactg actctgggtt cctggggacc accccgacct 1380
 tgtctgctc cttatttagga gatgatgcct tgggtgcagg ctatccagat ggcattcggc 1440

acatacgagc agacaagaga gtcaatgagt ggaagacccc tggaaagaaa acaattgtga 1500
 agtgtgcagt gaaccagcga caagtgggtga ttgccctgac aggaggagag ctgggtctatt 1560
 tcgagatgga tccttcagga cagctgaatg agtacacaga acggaaggag atgtcagcag 1620
 atgtgggtgt catgagtctg gccaatgtac cccctggaga gcagcgggtc cgcttccttg 1680
 ctgtggggct tgtggacaac actgtcagaa tcattccctt ggatccctca gactgtttgc 1740
 aacctctaag catgcaggct ctcccagccc agcctgagtc cttgtgtatc gtggaaatgg 1800
 gtgggactga gaagcaggat gagctgggtg agaggggctc gattggcttc ctatacctga 1860
 atattgggct acagaacggg gtgctgctga ggactgtctt ggaccctgtc actgggggatt 1920
 tgtctgatac tcgactcgg tacctggggg cccgtcctgt gaagctcttc cgagtcgaa 1980
 tgcaaggcca ggaggcagta ttggccatgt caagccgctc atgggtgagc tattcttacc 2040
 aatctcgctt ccattctacc ccactgtctt acgagacact ggaatttgca tcgggttttg 2100
 cctcggaaca gtgtcccag ggcatgttg ccattctccac caacacccta cggatttttg 2160
 cattagagaa gctcgggtgt gtcttcaatc aagtagcctt cccactgcag tacacacca 2220
 ggaaatttgt catccaccct gagagtaaca accttattat cattgaaacg gaccacaatg 2280
 cctacactga ggccacgaaa gctcagagaa agcagcagat ggagaggaa atgggtggaag 2340
 cagcagggga ggatgagcgg gagctggccg cagagatggc agcagcattc ctcaatgaaa 2400
 acctccctga atccattctt ggagctccca aggctggcaa tgggcagtg gctctgtga 2460
 tccgagtgt gaatcccat caagggaaca cactggacct tgtccagctg gaacagaatg 2520
 aggagcctt tagtgtggct gtgtgcagg tttccaacac tgggtaagac tggtagtg 2580
 tgggtgggtg ggccaaggac ctgtactaa acccccgatc tgtggcaggg ggcttcgtct 2640
 atacttacia gcttgtgaac aatggggaaa aactggagtt tttgcacaag actcctgtgg 2700
 aagaggtccc tgctgtatt gccccattcc aggggagggt gttgattggt gtggggaagc 2760
 tgttgcgtgt ctatgacctg ggaaagaaga agttactccg aaaatgtgag aataagcata 2820
 ttgccaatta tatctctggg atccagacta tcggacatag ggtaattgta tctgatgtcc 2880
 aagaaagttt catctgggtt cgtacaagc gtaatgaaaa ccagcttacc atctttgctg 2940
 atgataccta ccccgatgg gtcactacag ccagcctcct ggactatgac actgtggctg 3000
 gggcagacaa gtttggcaac atatgtgtgg tgaggctccc acctaacacc aatgatgaag 3060
 tagatgagga tcctacagga aacaaagccc tgtgggaccg tggcttgctc aatggggcct 3120
 cccagaaggc agaggtgatc atgaactacc atgtcgggga gacggtgctg tccttcgaga 3180
 agaccacgct gatccctgga ggctcagaat cacttgtcta taccaccttg tctggaggaa 3240
 ttggcatcct tgtgccattc acgtcccatt aggaccatga cttcttccag catgtggaaa 3300
 tgcacctgtt gtctgaacat cccctctctt gtgggcggga ccacctcagc tttcgtcct 3360
 actacttccc tgtgaagaat gtgattgatg gagacctctg tgagcagttc aattccatgg 3420
 aacccaacaa acaaaagaac gtctctgaag aactggaccg aacccccacc gaagtgtcca 3480
 agaaactcga ggatatccgg acccgctacg ccttctgagc cctcctttcc cgggtggggt 3540
 tgccagagac tgtgtgtttt gtttccccca ccaccatcac tgccacctgg cttctgccat 3600
 gtggcaggag ggtgactgga taattaagac tgcattatga aagtcaacag ctctttcccc 3660
 tcagctcttc tcctggaatg actggcttcc cctcaaattg gcactgagat ttgctacact 3720
 tctccccacc tggtagatga tacatgaccc caggttccag tgtagaacct gagtccccca 3780
 ttccccaaag ccattccctgc attgatatgt cttgactctc ctgtctactt ttgcacacac 3840
 ccttaatttt taattgggtt tcttgtaaat acagttttgt acaatgttat ctctgtggga 3900
 ggaaggaggc aggctgtggt gggactgggt agggatatgt atcactcctg agttccactg 3960
 ctctagaatc taaccagaaa tagaaaccta gtttttaagg tgaaaaaaa aaaaaaa 4017

<210> 46

<211> 1152

<212> PRT

<213> Homo sapiens

<400> 46

Met Ala Phe Arg Leu Thr Gly Gly Thr Lys Asp Tyr Ile Val Val Gly
 1 5 10 15

Ser Asp Ser Gly Arg Ile Val Ile Leu Glu Tyr Gln Pro Ser Lys Asn
 20 25 30

Met Phe Glu Lys Ile His Gln Glu Thr Phe Gly Lys Ser Gly Cys Ser
 35 40 45

Arg Ile Val Pro Gly Gln Phe Leu Ala Val Asp Pro Lys Gly Arg Ala

50	55	60
Val Met Ile Ser Ala Ile Glu Lys Gln Lys Leu Val Tyr Ile Leu Asn		
65	70	75 80
Arg Asp Ala Ala Ala Arg Leu Thr Ile Ser Ser Pro Leu Glu Ala His		
	85	90 95
Lys Ala Asn Thr Leu Val Tyr His Val Val Gly Val Asp Val Gly Phe		
	100	105 110
Glu Asn Pro Met Phe Ala Cys Leu Glu Met Asp Tyr Glu Glu Ala Asp		
	115	120 125
Asn Asp Pro Thr Gly Glu Ala Ala Ala Asn Thr Gln Gln Thr Leu Thr		
	130	135 140
Phe Tyr Glu Leu Asp Leu Gly Leu Asn His Val Val Arg Lys Tyr Ser		
145	150	155 160
Glu Pro Leu Glu Glu His Gly Asn Phe Leu Ile Thr Val Pro Gly Gly		
	165	170 175
Ser Asp Gly Pro Ser Gly Val Leu Ile Cys Ser Glu Asn Tyr Ile Thr		
	180	185 190
Tyr Lys Asn Phe Gly Asp Gln Pro Asp Ile Arg Cys Pro Ile Pro Arg		
	195	200 205
Arg Arg Asn Asp Leu Asp Asp Pro Glu Arg Gly Met Ile Phe Val Cys		
	210	215 220
Ser Ala Thr His Lys Thr Lys Ser Met Phe Phe Phe Leu Ala Gln Thr		
225	230	235 240
Glu Gln Gly Asp Ile Phe Lys Ile Thr Leu Glu Thr Asp Glu Asp Met		
	245	250 255
Val Thr Glu Ile Arg Leu Lys Tyr Phe Asp Thr Val Pro Val Ala Ala		
	260	265 270
Ala Met Cys Val Leu Lys Thr Gly Phe Leu Phe Val Ala Ser Glu Phe		
	275	280 285
Gly Asn His Tyr Leu Tyr Gln Ile Ala His Leu Gly Asp Asp Asp Glu		
	290	295 300
Glu Pro Glu Phe Ser Ser Ala Met Pro Leu Glu Glu Gly Asp Thr Phe		
305	310	315 320
Phe Phe Gln Pro Arg Pro Leu Lys Asn Leu Val Leu Val Asp Glu Leu		
	325	330 335
Asp Ser Leu Ser Pro Ile Leu Phe Cys Gln Ile Ala Asp Leu Ala Asn		
	340	345 350
Glu Asp Thr Pro Gln Leu Tyr Val Ala Cys Gly Arg Gly Pro Arg Ser		
	355	360 365
Ser Leu Arg Val Leu Arg His Gly Leu Glu Val Ser Glu Met Ala Val		

370	375	380
Ser Glu Leu Pro Gly Asn Pro Asn Ala Val Trp Thr Val Arg Arg His		
385	390	395 400
Ile Glu Asp Glu Phe Asp Ala Tyr Ile Ile Val Ser Phe Val Asn Ala		
405	410	415
Thr Leu Val Leu Ser Ile Gly Glu Thr Val Glu Glu Val Thr Asp Ser		
420	425	430
Gly Phe Leu Gly Thr Thr Pro Thr Leu Ser Cys Ser Leu Leu Gly Asp		
435	440	445
Asp Ala Leu Val Gln Val Tyr Pro Asp Gly Ile Arg His Ile Arg Ala		
450	455	460
Asp Lys Arg Val Asn Glu Trp Lys Thr Pro Gly Lys Lys Thr Ile Val		
465	470	475 480
Lys Cys Ala Val Asn Gln Arg Gln Val Val Ile Ala Leu Thr Gly Gly		
485	490	495
Glu Leu Val Tyr Phe Glu Met Asp Pro Ser Gly Gln Leu Asn Glu Tyr		
500	505	510
Thr Glu Arg Lys Glu Met Ser Ala Asp Val Val Cys Met Ser Leu Ala		
515	520	525
Asn Val Pro Pro Gly Glu Gln Arg Ser Arg Phe Leu Ala Val Gly Leu		
530	535	540
Val Asp Asn Thr Val Arg Ile Ile Ser Leu Asp Pro Ser Asp Cys Leu		
545	550	555 560
Gln Pro Leu Ser Met Gln Ala Leu Pro Ala Gln Pro Glu Ser Leu Cys		
565	570	575
Ile Val Glu Met Gly Gly Thr Glu Lys Gln Asp Glu Leu Gly Glu Arg		
580	585	590
Gly Ser Ile Gly Phe Leu Tyr Leu Asn Ile Gly Leu Gln Asn Gly Val		
595	600	605
Leu Leu Arg Thr Val Leu Asp Pro Val Thr Gly Asp Leu Ser Asp Thr		
610	615	620
Arg Thr Arg Tyr Leu Gly Ser Arg Pro Val Lys Leu Phe Arg Val Arg		
625	630	635 640
Met Gln Gly Gln Glu Ala Val Leu Ala Met Ser Ser Arg Ser Trp Leu		
645	650	655
Ser Tyr Ser Tyr Gln Ser Arg Phe His Leu Thr Pro Leu Ser Tyr Glu		
660	665	670
Thr Leu Glu Phe Ala Ser Gly Phe Ala Ser Glu Gln Cys Pro Glu Gly		
675	680	685
Ile Val Ala Ile Ser Thr Asn Thr Leu Arg Ile Leu Ala Leu Glu Lys		

1010 1015 1020
 Glu Val Ile Met Asn Tyr His Val Gly Glu Thr Val Leu Ser Leu Gln
 1025 1030 1035 1040
 Lys Thr Thr Leu Ile Pro Gly Gly Ser Glu Ser Leu Val Tyr Thr Thr
 1045 1050 1055
 Leu Ser Gly Gly Ile Gly Ile Leu Val Pro Phe Thr Ser His Glu Asp
 1060 1065 1070
 His Asp Phe Phe Gln His Val Glu Met His Leu Arg Ser Glu His Pro
 1075 1080 1085
 Pro Leu Cys Gly Arg Asp His Leu Ser Phe Arg Ser Tyr Tyr Phe Pro
 1090 1095 1100
 Val Lys Asn Val Ile Asp Gly Asp Leu Cys Glu Gln Phe Asn Ser Met
 1105 1110 1115 1120
 Glu Pro Asn Lys Lys Lys Asn Val Ser Glu Glu Leu Asp Arg Thr Pro
 1125 1130 1135
 Pro Glu Val Ser Lys Lys Leu Glu Asp Ile Arg Thr Arg Tyr Ala Phe
 1140 1145 1150

<210> 47
 <211> 2635
 <212> DNA
 <213> Homo sapiens

<400> 47
 aaggggttac acttccagct tttaaaattc tcctttacat gtgctcagtg ttttgttttg 60
 tgttttgggt tctgtttttt attttaattc ccacattggg cacaagaatc agaatatgga 120
 tagctagttt aagaaacttt tgtgggtgca ctgtagcata gatgacagaa tatttatgag 180
 ttgctgtgtt tgttgattag ttccatctct ttcccatttt aactgagaat tgattatata 240
 tagctctaag tatataggta tttaaacaac cccacaagcg gctgtatcag taacatttat 300
 taattccact atagtgaggg aggatttcca ttctaaatac cttattttga gggatttata 360
 aaacttagtt gtaaaagaga aagcccatat agtggaataa aattgcttca gccattttta 420
 gtatttgaga gcactaggga agatgttttag tagctgtgtg gatgcctttt ttcacaccct 480
 gtctattgaa tgctgcatcc attcacgaag ttaaagtgtta catgcagtta gtccttaatg 540
 tggactggat ctgtactttt gtttggattt aaaacattta aagatttttg aagtgcagct 600
 actccccacg tgcatttgat acacataaaa gtcatactgt gtgtgcacaa agagtacatg 660
 gattttccag catattgctt taaaaaatta tataaactgt taaaatatta acacctcagg 720
 ctacctgctg tattctgtcc cattgacccc tggaaattgga ttactgcaa gtgattgata 780
 attcaattat gtggcttttc ccctttaatc ttgccattta aattacagta gaaagacaaa 840
 atcaagtaaa ataaagtgtt agataataga aagagtgtta agaccagccc acttttctca 900
 tgtttatgtt ctttcatttg gaccaagaat ctccgcatgg aggttgattt gccactgggg 960
 actttggcta agactattag gtttgccttc aactagatgt tcctgagaca agcagaggga 1020
 cactgcaatt ccccttccat gcctgctgtt ctcccccatg taagtcttct ttgaaattaa 1080
 cggatgtgtc tcctttggaa cagccccata acaaaagaga actactgatc tgagcatagg 1140
 aaagtagagg ctctaccact ttctagttga aaaagcaaga ctttctctgt gtttctgaaa 1200
 caaggcataa tgttgtcaca gaatcagaga tccagtctca cttttccaca aatctccaaa 1260
 tctccagttt tatcttgtgt gctetaatgg tttggttcaa tccctttcca actcttgttt 1320
 tcaaagcatg gggcctgagt gttctccact cctcctaaga aaggagcttg ggtggaaggg 1380
 accatgctga cctcctccat cagagggctc ttccagtagt attctcggat gcaaccteca 1440
 tttctcagtt accattattt cctgtatcag ctttgcctt cctggaggga tgcacagtga 1500
 tccggccac cactgttgtt gtcttgtgtc tctgctctt cctatggttt caggttattt 1560
 tctgggtttc ccctattctt cttttatttc tttttttttt atatttgctt tcctttctac 1620

tgcttttaga tttgcaggag atgcaagttt cagctcaatg tttggcttct ctcaatatgg 1680
 aaatttcaga aggacagagg agaggaggga ggaagaagaa agtatactcc tccagaattt 1740
 cagtgatctg ttgtggcagt ccagtggaa gagggtcttt tgaggctact tagaagcatc 1800
 tttttgggac atccttttgg gatctctgta ggctaggcat ctcatactct gagactcacc 1860
 cccagcctcc aagcctctct ccatttctct aacctatgca ttttagageg agaggaccgc 1920
 ctactagtgt tcaccatcct gccttttcta aaacatgcag gctcacacat tctactcctg 1980
 cttaatgtct gtgttaaatg ttttctaacc atttttgttt tatttttctg aaaaagttaa 2040
 cccctcccaa ctctcacac attggctctt cctcttgagc cacaagttt tgattcttgc 2100
 gatgtatgtg ccttatttta tgtaaatctt gtcaatgaga gggaccagtt ggtgttgccc 2160
 aatcagcact ccaaggctgt gtgtgcacca gccagagagc gcacggtggt agcagagtcg 2220
 aggctgtctt gtatcctggt atcatatgtt gttttgaact gataggagga tgttctcttc 2280
 tgacaagtta cccttggtga tcttgcagac atgtaaaata aaatacaagt tcattttttt 2340
 cacctttttt agattttttt aaaaaataaa atgtgtaatc ctttttttaa aagaaacaca 2400
 tgtaaataca ttttaagtatt gtaggcatacg cggtcagatg tgactggccc aggcgttctt 2460
 cggacaagcc tgcattcccc gtgatcacgc ccacctcaag cccaggggct gcagccagc 2520
 cacagatgaa ctctaccttt gctttcagaa ccacttagtc cttttgtaac aaagaaaaaa 2580
 aaatgtttct tacaatgtca ataaaaaatt ctttgtatgg aaaaaaaaaa aaaaa 2635

<210> 48

<211> 97

<212> PRT

<213> Homo sapiens

<400> 48

Met His Ser Asp Pro Ala His His Cys Cys Cys Leu Val Leu Leu Leu
 1 5 10 15

Phe Pro Met Val Ser Gly Tyr Phe Leu Gly Phe Pro Tyr Ser Ser Phe
 20 25 30

Ile Ser Phe Phe Phe Ile Phe Ala Phe Leu Ser Thr Ala Phe Arg Phe
 35 40 45

Ala Gly Asp Ala Ser Phe Ser Ser Met Phe Gly Phe Ser Gln Tyr Gly
 50 55 60

Asn Phe Arg Arg Thr Glu Glu Arg Arg Glu Glu Glu Glu Ser Ile Leu
 65 70 75 80

Leu Gln Asn Phe Ser Asp Leu Leu Trp Gln Ser Ser Gly Arg Lys Val
 85 90 95

Phe

<210> 49

<211> 1594

<212> DNA

<213> Homo sapiens

<400> 49

gccagtgaga aaggagctta ccaaaggcag tgtacgaaga aggttctctg gagactgtca 60
 gaaatgagtt tttcactgaa cttcaccctg ccggcgaaca caacgtcttc tctgtgcaca 120
 ggtgggaaag aaacggactg tgggccctct cttggattag cggcgggcat accattgctg 180
 gtggccacag cctgctggtt ggttttacta tttactttga ttcacccaag aagaagcagc 240
 attgaggcca tggaggaaag tgacagacca tgtgaaattt cagaaattga tgacaatccc 300
 aagatatctg agaatcctag gagatcaccc acacatgaga agaatacgat gggagcaca 360
 gagggccaca tatatgtgaa gactgtagca ggaagcgagg aacctgtgca tgaccgttac 420
 cgtcctacta tagaaatgga aagaaggagg ggattgtggt ggcttgtgcc cagactgagc 480

```

ctggaatgat gcagctcagt caaggagcag cagacctggc ctggaacagg ttgaaaaccc 540
aggggtttgt acttgagag gaaagatgcc aagctgcttc ttaatcaatc caaatttcat 600
ttacagctct ggaacacttt ggggctgatt tgtctcttta ggggacatcc ccaacatggg 660
taattccaac tctcagatct tgtgctttag ttagtacatg tgactcacca gatgggggcc 720
ttagatccta ttcctgctcc cagtgggaat ttgcttttct ttgtcatttt gggaaagggg 780
cttggtttct gagtgtcttg ccttctcatc ttttttttct ataccctttt tctcaaaaaa 840
gccatcagat ctgactttca tggaagtgtt gctgaggtca gcctggtgca agttgggata 900
caaatgaaac ttatgcagga tgtgtgagag gaagcagtta attgtttctg aatatctcag 960
ggtaggaacc atgtggagcc acacattccc tgaccacagg gaagcacctg gctcaatcat 1020
gtcacacagc agtggaaaga atacggactc ttaagtcaca cctaccactg agcagctgta 1080
cgactttgga gaagttgttt aacattttca agcctcagtt tttgcttttt taaaggaggg 1140
gaaatatttg cctcatgtca taattgaaaa gattaaataa gaaataaagg gaagtgtctg 1200
ctacttagtt gccagtcaaa atgttagttc tctctctcta ccaccttctt cctacctctt 1260
cccatattgc ttgcttgata aaacagctaa tcaccagcat ttgttcccca tagtcacagg 1320
gccacacaag ggaacattta ggacaaactt tctccatggc ctatgatcca aattgttatt 1380
taaagatgat tctaggtgtt gctggtagta tgtgaatctt ccaatctagg tgtgatcgtg 1440
tcctcatatg aatcaggaaa aggcagtttc ttacaagttc cgaattccaa atacagagac 1500
tggtgtgtgt acatttaacc ttaaagatgt taatgttgat ggaaattcat gtttcatatt 1560
aaaacaacac tttgtcttta aaaaaaaaaa aaaa 1594

```

<210> 50
<211> 141
<212> PRT
<213> Homo sapiens

```

<400> 50
Met Ser Phe Ser Leu Asn Phe Thr Leu Pro Ala Asn Thr Thr Ser Ser
  1             5             10             15

Pro Val Thr Gly Gly Lys Glu Thr Asp Cys Gly Pro Ser Leu Gly Leu
      20             25             30

Ala Ala Gly Ile Pro Leu Leu Val Ala Thr Ala Leu Leu Val Ala Leu
      35             40             45

Leu Phe Thr Leu Ile His Pro Arg Arg Ser Ser Ile Glu Ala Met Glu
      50             55             60

Glu Ser Asp Arg Pro Cys Glu Ile Ser Glu Ile Asp Asp Asn Pro Lys
      65             70             75             80

Ile Ser Glu Asn Pro Arg Arg Ser Pro Thr His Glu Lys Asn Thr Met
      85             90             95

Gly Ala Gln Glu Ala His Ile Tyr Val Lys Thr Val Ala Gly Ser Glu
      100            105            110

Glu Pro Val His Asp Arg Tyr Arg Pro Thr Ile Glu Met Glu Arg Arg
      115            120            125

Arg Gly Leu Trp Trp Leu Val Pro Arg Leu Ser Leu Glu
      130            135            140

```

<210> 51
<211> 5160
<212> DNA
<213> Homo sapiens

<400> 51

gatatcttaa gcccggtac gtogaccac gcgtccgaa tcgctcagga aagacacact 60
 gcagactcca ccggcaccct gcaatagatg gattccgact acacaagga gaaaacgcgg 120
 aggtgacact ctctgcctg gaaagaggac gaacgaccaa acaaacgcaa ggactggact 180
 ccatgccgaa ggtatctgga agtcgtgaca cgggtgtgat aaaacaaaag ttgcgagct 240
 gttaattgct gtgctgtgtt attagagac gctttcaagt ttcaagtacc aaatgtagct 300
 ttacgttgcc aaaggaagtt gaggcaattg ctttgcgtgt ttaacttgct ctgtgagga 360
 aatctcataa actgaccaat gcaccaaag aatgctaaaa tgcacttttag gtttgtttt 420
 gcactctctga tagtatcttt caaccacgat gtactgggca agaatttgaa atacaggatt 480
 tatgaggaac agaggggttg atcagtaatt gcaagactat cagaggatgt ggctgatgtt 540
 ttattgaagc ttcctaattc ttctactgtt cgatttcgag ccatgcagag gggaaattct 600
 cctctacttg tagtaaacga ggataatggg gaaatcagca taggggtac aattgaccgt 660
 gaacaactgt gccagaaaaa cttgaactgt tccatagagt ttgatgtgat cactctaccc 720
 acagagcacc tgcagctttt ccatattgaa gttgaagtgc tggatattaa tgacaattct 780
 cccagttttt caagatctct catacctatt gagatatctg agagtgcagc agttgggact 840
 cgcattcccc tggacagtgc atttgatcca gatgttgggg aaaattccct ccacacatac 900
 tcgctctctg ccaatgattt ttttaatatc gaggttcgga ccaggactga tggagccaag 960
 tatgcagaac tcatagtgtt cagagagtta gatcgggagc tgaagtcaag ctacgagctt 1020
 cagctcactg cctcagacat gggagtacct cagaggtctg gctcatccat actaaaaata 1080
 agcatttcag actccaatga caacagccct gcttttgagc agcaatctta tataatacaa 1140
 ctcttagaaa actccccggt tggcactttg ctcttagatc tgaatgccac ggatccagat 1200
 gagggcgcta atgggaaaat tgtatatcc ttcagcagtc atgtgtctcc caaaattatg 1260
 gagactttta aaattgattc tgaaagagga catttgactc ttttcaagca agtggattat 1320
 gaaatcacca aatcctatga gattgatgtt caggtcgaag atttgggtcc aaattcaatc 1380
 ccagcccatc gcaaaattat aattaaggtt gtggatgtta atgacaataa acctgaaatt 1440
 aacatcaacc tcatgtcccc tggaaaagaa gaaatatctt atatttttga aggggatcct 1500
 attgatacat ttgttgcttt ggtcagagtt caggacaagg attctgggct gaattggagaa 1560
 atagtttgta agcttcatgg acatggtcac tttaaacttc agaagacata tgaaaacaat 1620
 tatttaactc taactaatgc cacactggat agagaaaaga gatctgagta tagtttgact 1680
 gtaatcgctg aggacagggg gacacccagt ctctctacag tgaacattt tacagttcaa 1740
 atcaatgata tcaatgacaa tccacccac ttccagagaa gccgatatga atttgaatt 1800
 tcagaaaata actcaccagg ggcataatc accactgtta cagccacaga tctgatctt 1860
 ggagaaaatg ggcaagtgc ataccacatc ttggagagtt ttattctagg aagttccata 1920
 actacatatg taaccattga cccatctaat ggagccatct atgccctcag aatctttgat 1980
 catgaagaag tgagtcagat cacttttgtg gtagaagcaa gagatggagg aagcccgaag 2040
 caactggtaa gcaataccac agttgtgctc accatcattg acgaaaatga caacgttcc 2100
 gtggttatag ggctgcatc gcgtaataat acggcagaaa tcaccattcc caaaggggct 2160
 gaaagtggct ttcatgtcac aagaataagg gcaattgaca gagactctgg tgtgaatgct 2220
 gaactcagct gcgcctagat agcaggtaat gaggagaata tcttcataat tgatccacga 2280
 tcatgtgaca tccataccaa cgtagcatg gattctgttc cctacacaga atgggagctg 2340
 tcagttatca ttcaggacaa aggcaatcct cagctacata ccaaagtcct tctgaagtgc 2400
 atgatctttg aatatgcaga gtcggtgaca agtacagcaa tgacttcagt aagccaggca 2460
 tccttgatg tctccatgat aataattatt tcttaggag caatttgtgc agtgttgctg 2520
 gttattatgg tgctatttgc aactaggtgt aaccgcgaga agaaagacac tagatcctat 2580
 aactgcaggg tggccgaatc aacttaccag caccaccaa aaaggccatc ccggcagatt 2640
 cacaagggg acatcacatt ggtgcctacc ataaatggca ctctgccat cagatctcat 2700
 cacagatcgt ctccatcttc atctcctacc ttagaaagag ggcagatggg cagccggcag 2760
 agtcacaaca gtcaccagtc actcaacagt ttggtgacaa tctcatcaa ccacgtgcc 2820
 gagaatttct cattagaact caccacgcc actcctgctg ttgagcaggt ctctcagctt 2880
 ctttcaatgc ttcaccagg gcaatatcag ccaagaccaa gttttcgagg aaacaaatat 2940
 tccaggagct acagatatgc ccttcaagac atggacaaat ttagcttgaa agacagtggc 3000
 cgtggtgaca gtgaggcagg agacagtgt tatgatttgg ggcgagattc tccaatagat 3060
 aggtcgttgg gtgaaggatt cagcgacctg tttctcacag atggaagaat tccagcagct 3120
 atgagactct gcacggagga gtgcagggtc ctgggacact ctgaccagt ctggatgcc 3180
 ccaactgccct caccgtcttc tgattatagg agtaacatgt tcattccagg ggaagaattc 3240
 ccaacgcaac ccagcagca gcatccacat cagagtcttg aggatgacgc tcagcctgca 3300
 gattccgggtg aaaagaagaa gagtttttcc accttggaa aggactcccc aaacgatgag 3360
 gacactgggg ataccagcac atcatctctg ctctcgaaa tgagcagtgt gttccagcgt 3420
 ctcttaccgc cttccctgga cacctattct gaatgcagt aggtggatcg gtccaactcc 3480
 ctggagcgca ggaagggacc cttgccagcc aaaactgtgg gttaccaca gggggtagcg 3540
 gcatggcgag ccagtagcga ttttcaaaat ccacaccca actgtggggc gccacttgga 3600

actcactcca gtgtgcagcc ttcttcaaaa tggctgccag ccatggagga gatccctgaa 3660
 aattatgagg aagatgattt tgacaatgtg ctcaaccacc tcaatgatgg gaaacacgaa 3720
 ctcatggatg ccagtgaact ggtggcagag attaacaacac tgcttcaaga tgctccgccag 3780
 agctaggaga ttttagcgaa gcatttttgt ttccatgtat atggaaatag ggaacaacaa 3840
 caacaacaaa aaacctgaa agaactggca ttgccaataa gttgcattta tcataaatgt 3900
 gtctgtgtat attgaatatt aaatactgta ttttcgtatg tacacaatgc aagtgtgatt 3960
 attttaatct gtattttaaa aatacatttg taccttatat ttatgtgtaa ttaacaacac 4020
 aaattttatt tttttactcc catgacagac atgtttttcc tagtcgtgta gaaactagcc 4080
 actgttcaaa tctgatacac tattcaacca caaagtgtaa aggcactgct tagattagtt 4140
 ttgttgggga agaattatta tgtgtatga acaacccccc tgaagcatta tacaattctt 4200
 aattccatta agtgatccca ctttttttca ataacttttt agaaattaag aatcattaaa 4260
 attgttaagc ttttttattg ttattttctc tactttctac tagccccaat agttgaactc 4320
 ttataggaaa atcgaaagat aaagtgaag tttatttcag gactgagaaa tatcttgaag 4380
 gttattttatt agatgactat ctcaaatgaa ctttttatag acaatgatga aaacagaatt 4440
 aaagtcaatg tttcctgact cccaggcccc tactattcca ggccatcaca ctggcctgtt 4500
 ccggagaata tttctctcac aatattatta tctacttata attatggtaa acaataaatt 4560
 ttattccatc cttgtagtat gaaacatgct ccaaggaaat ggaatctgtc ctttaaatgg 4620
 ataacagtat gtgttctaag ggcataaaat attactggat aaaaacagtt gtgtcagttg 4680
 ctctcctaag gtagtaaaata taattgactt attctgaacc cattctattt tgaatctccc 4740
 ctttctcttc acaataactg aacattttta tcttttggaa tattgtcttt ctttgttata 4800
 actattcatt tttagctttt gtctccagtg catgatctca tttttttgct tttattttta 4860
 gtataagaac atttataaaa tcatattttt gttactgcaa ttgttttatt tgttgtgtgg 4920
 caaatgagaa atccttttatt tattgtgctg tgatctctct gtgtggaatg ccttggtgag 4980
 agagatgctt attatgacta ttatcatttc tgaccaagct tctattaatg ttattttctaa 5040
 taatacacta tcttgattgt actctccaga aaatttttct gtcagtgaag ataaaagaaa 5100
 aattaaagta aagctaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 5160

<210> 52

<211> 1135

<212> PRT

<213> Homo sapiens

<400> 52

Met	His	Gln	Met	Asn	Ala	Lys	Met	His	Phe	Arg	Phe	Val	Phe	Ala	Leu
1				5					10					15	
Leu	Ile	Val	Ser	Phe	Asn	His	Asp	Val	Leu	Gly	Lys	Asn	Leu	Lys	Tyr
			20					25					30		
Arg	Ile	Tyr	Glu	Glu	Gln	Arg	Val	Gly	Ser	Val	Ile	Ala	Arg	Leu	Ser
		35					40					45			
Glu	Asp	Val	Ala	Asp	Val	Leu	Lys	Leu	Pro	Asn	Pro	Ser	Thr	Val	
	50					55				60					
Arg	Phe	Arg	Ala	Met	Gln	Arg	Gly	Asn	Ser	Pro	Leu	Leu	Val	Val	Asn
	65				70					75					80
Glu	Asp	Asn	Gly	Glu	Ile	Ser	Ile	Gly	Ala	Thr	Ile	Asp	Arg	Glu	Gln
		85						90					95		
Leu	Cys	Gln	Lys	Asn	Leu	Asn	Cys	Ser	Ile	Glu	Phe	Asp	Val	Ile	Thr
		100						105					110		
Leu	Pro	Thr	Glu	His	Leu	Gln	Leu	Phe	His	Ile	Glu	Val	Glu	Val	Leu
		115					120					125			
Asp	Ile	Asn	Asp	Asn	Ser	Pro	Gln	Phe	Ser	Arg	Ser	Leu	Ile	Pro	Ile
	130					135						140			

Glu Ile Ser Glu Ser Ala Ala Val Gly Thr Arg Ile Pro Leu Asp Ser
 145 150 155 160
 Ala Phe Asp Pro Asp Val Gly Glu Asn Ser Leu His Thr Tyr Ser Leu
 165 170 175
 Ser Ala Asn Asp Phe Phe Asn Ile Glu Val Arg Thr Arg Thr Asp Gly
 180 185 190
 Ala Lys Tyr Ala Glu Leu Ile Val Val Arg Glu Leu Asp Arg Glu Leu
 195 200 205
 Lys Ser Ser Tyr Glu Leu Gln Leu Thr Ala Ser Asp Met Gly Val Pro
 210 215 220
 Gln Arg Ser Gly Ser Ser Ile Leu Lys Ile Ser Ile Ser Asp Ser Asn
 225 230 235 240
 Asp Asn Ser Pro Ala Phe Glu Gln Gln Ser Tyr Ile Ile Gln Leu Leu
 245 250 255
 Glu Asn Ser Pro Val Gly Thr Leu Leu Leu Asp Leu Asn Ala Thr Asp
 260 265 270
 Pro Asp Glu Gly Ala Asn Gly Lys Ile Val Tyr Ser Phe Ser Ser His
 275 280 285
 Val Ser Pro Lys Ile Met Glu Thr Phe Lys Ile Asp Ser Glu Arg Gly
 290 295 300
 His Leu Thr Leu Phe Lys Gln Val Asp Tyr Glu Ile Thr Lys Ser Tyr
 305 310 315 320
 Glu Ile Asp Val Gln Ala Gln Asp Leu Gly Pro Asn Ser Ile Pro Ala
 325 330 335
 His Cys Lys Ile Ile Ile Lys Val Val Asp Val Asn Asp Asn Lys Pro
 340 345 350
 Glu Ile Asn Ile Asn Leu Met Ser Pro Gly Lys Glu Glu Ile Ser Tyr
 355 360 365
 Ile Phe Glu Gly Asp Pro Ile Asp Thr Phe Val Ala Leu Val Arg Val
 370 375 380
 Gln Asp Lys Asp Ser Gly Leu Asn Gly Glu Ile Val Cys Lys Leu His
 385 390 395 400
 Gly His Gly His Phe Lys Leu Gln Lys Thr Tyr Glu Asn Asn Tyr Leu
 405 410 415
 Ile Leu Thr Asn Ala Thr Leu Asp Arg Glu Lys Arg Ser Glu Tyr Ser
 420 425 430
 Leu Thr Val Ile Ala Glu Asp Arg Gly Thr Pro Ser Leu Ser Thr Val
 435 440 445
 Lys His Phe Thr Val Gln Ile Asn Asp Ile Asn Asp Asn Pro Pro His
 450 455 460

Phe Gln Arg Ser Arg Tyr Glu Phe Val Ile Ser Glu Asn Asn Ser Pro
465 470 475 480
Gly Ala Tyr Ile Thr Thr Val Thr Ala Thr Asp Pro Asp Leu Gly Glu
485 490 495
Asn Gly Gln Val Thr Tyr Thr Ile Leu Glu Ser Phe Ile Leu Gly Ser
500 505 510
Ser Ile Thr Thr Tyr Val Thr Ile Asp Pro Ser Asn Gly Ala Ile Tyr
515 520 525
Ala Leu Arg Ile Phe Asp His Glu Glu Val Ser Gln Ile Thr Phe Val
530 535 540
Val Glu Ala Arg Asp Gly Gly Ser Pro Lys Gln Leu Val Ser Asn Thr
545 550 555 560
Thr Val Val Leu Thr Ile Ile Asp Glu Asn Asp Asn Val Pro Val Val
565 570 575
Ile Gly Pro Ala Leu Arg Asn Asn Thr Ala Glu Ile Thr Ile Pro Lys
580 585 590
Gly Ala Glu Ser Gly Phe His Val Thr Arg Ile Arg Ala Ile Asp Arg
595 600 605
Asp Ser Gly Val Asn Ala Glu Leu Ser Cys Ala Ile Val Ala Gly Asn
610 615 620
Glu Glu Asn Ile Phe Ile Ile Asp Pro Arg Ser Cys Asp Ile His Thr
625 630 635 640
Asn Val Ser Met Asp Ser Val Pro Tyr Thr Glu Trp Glu Leu Ser Val
645 650 655
Ile Ile Gln Asp Lys Gly Asn Pro Gln Leu His Thr Lys Val Leu Leu
660 665 670
Lys Cys Met Ile Phe Glu Tyr Ala Glu Ser Val Thr Ser Thr Ala Met
675 680 685
Thr Ser Val Ser Gln Ala Ser Leu Asp Val Ser Met Ile Ile Ile Ile
690 695 700
Ser Leu Gly Ala Ile Cys Ala Val Leu Leu Val Ile Met Val Leu Phe
705 710 715 720
Ala Thr Arg Cys Asn Arg Glu Lys Lys Asp Thr Arg Ser Tyr Asn Cys
725 730 735
Arg Val Ala Glu Ser Thr Tyr Gln His His Pro Lys Arg Pro Ser Arg
740 745 750
Gln Ile His Lys Gly Asp Ile Thr Leu Val Pro Thr Ile Asn Gly Thr
755 760 765
Leu Pro Ile Arg Ser His His Arg Ser Ser Pro Ser Ser Ser Pro Thr
770 775 780

Leu Glu Arg Gly Gln Met Gly Ser Arg Gln Ser His Asn Ser His Gln
 785 790 795 800
 Ser Leu Asn Ser Leu Val Thr Ile Ser Ser Asn His Val Pro Glu Asn
 805 810 815
 Phe Ser Leu Glu Leu Thr His Ala Thr Pro Ala Val Glu Gln Val Ser
 820 825 830
 Gln Leu Leu Ser Met Leu His Gln Gly Gln Tyr Gln Pro Arg Pro Ser
 835 840 845
 Phe Arg Gly Asn Lys Tyr Ser Arg Ser Tyr Arg Tyr Ala Leu Gln Asp
 850 855 860
 Met Asp Lys Phe Ser Leu Lys Asp Ser Gly Arg Gly Asp Ser Glu Ala
 865 870 875 880
 Gly Asp Ser Asp Tyr Asp Leu Gly Arg Asp Ser Pro Ile Asp Arg Leu
 885 890 895
 Leu Gly Glu Gly Phe Ser Asp Leu Phe Leu Thr Asp Gly Arg Ile Pro
 900 905 910
 Ala Ala Met Arg Leu Cys Thr Glu Glu Cys Arg Val Leu Gly His Ser
 915 920 925
 Asp Gln Cys Trp Met Pro Pro Leu Pro Ser Pro Ser Ser Asp Tyr Arg
 930 935 940
 Ser Asn Met Phe Ile Pro Gly Glu Glu Phe Pro Thr Gln Pro Gln Gln
 945 950 955 960
 Gln His Pro His Gln Ser Leu Glu Asp Asp Ala Gln Pro Ala Asp Ser
 965 970 975
 Gly Glu Lys Lys Lys Ser Phe Ser Thr Phe Gly Lys Asp Ser Pro Asn
 980 985 990
 Asp Glu Asp Thr Gly Asp Thr Ser Ser Ser Leu Leu Ser Glu Met
 995 1000 1005
 Ser Ser Val Phe Gln Arg Leu Leu Pro Pro Ser Leu Asp Thr Tyr Ser
 1010 1015 1020
 Glu Cys Ser Glu Val Asp Arg Ser Asn Ser Leu Glu Arg Arg Lys Gly
 1025 1030 1035 1040
 Pro Leu Pro Ala Lys Thr Val Gly Tyr Pro Gln Gly Val Ala Ala Trp
 1045 1050 1055
 Ala Ala Ser Thr His Phe Gln Asn Pro Thr Thr Asn Cys Gly Pro Pro
 1060 1065 1070
 Leu Gly Thr His Ser Ser Val Gln Pro Ser Ser Lys Trp Leu Pro Ala
 1075 1080 1085
 Met Glu Glu Ile Pro Glu Asn Tyr Glu Glu Asp Asp Phe Asp Asn Val
 1090 1095 1100

Leu Asn His Leu Asn Asp Gly Lys His Glu Leu Met Asp Ala Ser Glu
 1105 1110 1115 1120

Leu Val Ala Glu Ile Asn Lys Leu Leu Gln Asp Val Arg Gln Ser
 1125 1130 1135

<210> 53
 <211> 1207
 <212> DNA
 <213> Homo sapiens

<400> 53
 atggcgctccc gcggccggcg tccggagcat ggccggacccc cagagctgtt ttatgacgag 60
 acagaagccc ggaaatacgt tcgcaactca cggatgattg atatccagac caggatggct 120
 gggcgagcat tggagcttct ttatctgccca gagaataagc cctgttacct gctggatatt 180
 ggctgtggca ctgggctgag tggaaagtat ctgtcagatg aagggcacta ttgggtgggc 240
 ctggatatca gccctgccat gctggatgag gctgtggacc gagagataga gggagacctg 300
 ctgctggggg atatgggcca ggccatccca ttcaagccag gcacatttga tgggtgcatc 360
 agcatttctg ctgtgcattg gctctgtaat gctaacaaga agtctgaaaa ccctgccaaag 420
 cgctgtact gcttttttgc ttctcttttt tctgttctcg tccggggatc ccgagctgtc 480
 ctgcagctgt accctgagaa ctcagagcag ttggagctga tcacaaccca gcccacaaag 540
 gcaggcttct ccggtggcat ggtggttagac taccctaaca gtgccaaagc aaagaaattc 600
 tacctctgct tgttttctgg gccttcgacc ttatataccag aggggctgag tgaaaatcag 660
 gatgaagttg aaccagggga gtctgtgttc accaatgaga ggttccatt aaggatgtcg 720
 aggcggggaa tggtagggaa gagtgcggca tgggtgctgg agaagaagga gcggcacagg 780
 cgccagggca gggaagtcag acctgacacc cagtacaccg gccgcaagcg caagccccgc 840
 ttctaagtca ccacgcggtt ctggaaaggc acttgctctc gcacttttct atattgttca 900
 gctgacaaag tagtatttta gaaaagtctt aaagtataaa aaatgttttc tgcagtaaaa 960
 aaaaagtctt ctggccgggg cgtggtggct cacacctgta atcccagcac cttgggaggc 1020
 tgaggtggga ggatcatttg aggcaggag tttagacct gcctgggcaa cataatgaaa 1080
 cttccttttc agggagaaaa aaaaaaaaaa aaaaaaaagc tctgagagca tcttattttg 1140
 tttaaaggca agaaataaaa tttccttttg tggaaaaaaa aaaaaaaaaa aaaaaaaaaa 1200
 aaaaaaa 1207

<210> 54
 <211> 281
 <212> PRT
 <213> Homo sapiens

<400> 54
 Met Ala Ser Arg Gly Arg Arg Pro Glu His Gly Gly Pro Pro Glu Leu
 1 5 10 15
 Phe Tyr Asp Glu Thr Glu Ala Arg Lys Tyr Val Arg Asn Ser Arg Met
 20 25 30
 Ile Asp Ile Gln Thr Arg Met Ala Gly Arg Ala Leu Glu Leu Leu Tyr
 35 40 45
 Leu Pro Glu Asn Lys Pro Cys Tyr Leu Leu Asp Ile Gly Cys Gly Thr
 50 55 60
 Gly Leu Ser Gly Ser Tyr Leu Ser Asp Glu Gly His Tyr Trp Val Gly
 65 70 75 80
 Leu Asp Ile Ser Pro Ala Met Leu Asp Glu Ala Val Asp Arg Glu Ile
 85 90 95
 Glu Gly Asp Leu Leu Leu Gly Asp Met Gly Gln Gly Ile Pro Phe Lys

100	105	110
Pro Gly Thr Phe Asp Gly Cys Ile Ser Ile Ser Ala Val His Trp Leu		
115	120	125
Cys Asn Ala Asn Lys Lys Ser Glu Asn Pro Ala Lys Arg Leu Tyr Cys		
130	135	140
Phe Phe Ala Ser Leu Phe Ser Val Leu Val Arg Gly Ser Arg Ala Val		
145	150	155
160		
Leu Gln Leu Tyr Pro Glu Asn Ser Glu Gln Leu Glu Leu Ile Thr Thr		
165	170	175
Gln Ala Thr Lys Ala Gly Phe Ser Gly Gly Met Val Val Asp Tyr Pro		
180	185	190
Asn Ser Ala Lys Ala Lys Lys Phe Tyr Leu Cys Leu Phe Ser Gly Pro		
195	200	205
Ser Thr Phe Ile Pro Glu Gly Leu Ser Glu Asn Gln Asp Glu Val Glu		
210	215	220
Pro Arg Glu Ser Val Phe Thr Asn Glu Arg Phe Pro Leu Arg Met Ser		
225	230	235
240		
Arg Arg Gly Met Val Arg Lys Ser Arg Ala Trp Val Leu Glu Lys Lys		
245	250	255
Glu Arg His Arg Arg Gln Gly Arg Glu Val Arg Pro Asp Thr Gln Tyr		
260	265	270
Thr Gly Arg Lys Arg Lys Pro Arg Phe		
275	280	

<210> 55
 <211> 1490
 <212> DNA
 <213> Homo sapiens

<400> 55
 agccacacgtg gtggggagga ggccctgctg tggaatccct accccaggag cctggccct 60
 cctcctggtg gggctcccta gaggagggtc ctctcagccc gagaacgcag ctcaagtgtg 120
 caggctccaa ctgtttttct gtgacttgct cgccgtgtag gctgctaaac atctggctga 180
 accaagcgtt catctgacc tgaagccaga acctcagaaa ccaaagtaag gcctgatcat 240
 gcctcgccc cactgcccc gagacctct cttgtctctt tgatgtttt tttctatatt 300
 tatttttctg tttgtgtgt ctgcatggtg ttttccgggc agtggcttct gccatcatca 360
 ccacatgttt ctctgctgcc cactgtcctg aggtgggccc tctgggaagc cctgcttct 420
 gccgtttgcg ggacgagtc cgccctcttt ttccctgtcc ccatcggtag tctgcgtgca 480
 cgtgttttcc acagtaaaac cgtgtgtgt aactctttcc agcaaagtaa caatccgcca 540
 ttacaaaggt cgtcctcctt gatccagtta acgagtcaga actcttctcc caatcagcag 600
 agaaccgccg aggtcatcgg ggtcatgcag agtcaaaaca gcagcggggg caaccgggga 660
 cccggccact ggagcaggtc acctgttaca agtgtggcga gaaaggacac tacgccaaca 720
 gatgcaccaa agggcacttg gcctttctca gtggacagtg acagcagctg gagccagctc 780
 cgagcagccc gggggccccg ctgttgaggag tgtgcattta actgtttcat gcgcttggtg 840
 gcgcgactgt ggctcgagct ggccccgaga cacgtgggtt tcatacctct gagggggccac 900
 gtctgttagt ttctatcat tttgccttag tttttttga aaaaggacat gtgtcctgtg 960
 ggctcctgca gtcgacatca tgtttggctg ggcacgatg cctcctttct gggactcccc 1020
 gcacaactcc ctgcctgct gaatcctaaa gctgtgcta tatctgtgat ttgaatgagg 1080

gagccctttg gggcaaattc aggtgcccc attgcctcag gctggccctg gtcccagggtg 1140
gcagcggttg aggaggggta cagggctctc aagcctgagg tttctctctc tgggcttaat 1200
tttctcttgg ggtacgtgcc tgacagtgtt taagggtgcc gttgaactgg agttgcagac 1260
ttttaaatag atgaccctt dagatcatct gtgcctacct cctgcccac aggcgtctac 1320
actgtcactc agacacctgt ggcatgtgga ggagactgcc ctgtcctgag cctggaaaat 1380
gtgaaactgt ctctgcaac ctgctgggca tgtgggctg gctgtgttca attgcaagaa 1440
caatttttat gaaatggatt aaagcttgtt ttttaaaaaa aaaaaaaaaa 1490

<210> 56
<211> 208
<212> PRT
<213> Homo sapiens

<400> 56
Met Phe Cys Phe Leu Phe Tyr Phe Ser Phe Leu Cys Val Cys Met Val
1 5 10 15
Phe Phe Gly Gln Trp Leu Leu Pro Ser Ser Pro His Val Ser Leu Leu
20 25 30
Pro Thr Val Leu Arg Trp Ala Val Val Glu Ala Leu Leu Pro Ala Val
35 40 45
Cys Gly Thr Ser Pro Ala Leu Phe Phe Pro Val Pro Ile Gly Ser Leu
50 55 60
Arg Ala Arg Val Phe His Ser Lys Thr Val Leu Cys Asn Ser Phe Gln
65 70 75 80
Gln Ser Asn Asn Pro Pro Leu Gln Arg Ser Ser Ser Leu Ile Gln Leu
85 90 95
Thr Ser Gln Asn Ser Ser Pro Asn Gln Gln Arg Thr Pro Gln Val Ile
100 105 110
Gly Val Met Gln Ser Gln Asn Ser Ser Gly Gly Asn Arg Gly Pro Gly
115 120 125
His Trp Ser Arg Ser Pro Val Thr Ser Val Ala Arg Lys Asp Thr Thr
130 135 140
Pro Thr Asp Ala Pro Lys Gly Thr Trp Pro Phe Ser Val Asp Ser Asp
145 150 155 160
Ser Ser Trp Ser Gln Leu Arg Ala Ala Arg Gly Pro Arg Cys Trp Glu
165 170 175
Cys Ala Phe Asn Cys Phe Met Arg Leu Leu Ala Arg Leu Trp Leu Glu
180 185 190
Leu Ala Arg Arg His Val Gly Phe Ile Thr Leu Arg Gly His Val Cys
195 200 205

<210> 57
<211> 4184
<212> DNA
<213> Homo sapiens

<400> 57

agcagggaaa gaaaaacttg acgtgtggaa tacagaggga ggagatttta acattatggc 60
 agggaggcat cagaatcgta gttttcctct tccaggagtt cagtcaagtg gtcaagtaca 120
 tgcatttggg aattgttcag acagtgatat tttggaggag gatgctgaag tgtatgagct 180
 tctatccaga ggaagagaga aagtccgaag aagtacatca agagatagac ttgacgacat 240
 tatagtatta acaaaagata tacaagaagg agatacatta aatgcaatag cccttcagta 300
 ctgttgtacg gtagcagata tcaagagagt taacaatctc atcagtgatc aagacttttt 360
 tgcccttagg tctatcaaaa ttccagtaaa aaagtccagt tccttgaccg aaacactttg 420
 tcctccaaaa ggaagacaga cttcacgtca ttcatctgtt caatactctt ccgaacaaca 480
 ggaaattttg ccagctaattg attctcttgc ttacagtgcac tcagctggga gctttttaaa 540
 agaagtagac cgagacatag aacaaatagt aaagtgtaca gacaataaga gagagaacct 600
 ccatgaggta gtatcgccct tcacagcaca acaaatgcgt tttgaacctg ataacaaaaa 660
 cactcaacgt aaagaccctt attatggagc agactgggga atagggtggt ggacagctgt 720
 agtgataatg ttgatagtag gtataataac accagtgttt tatttgttgt attatgaaat 780
 tttagctaag gtggatgta gtcatcttc aacagtggac tcttcacatt tacattcaaa 840
 aatcacaccc ccatcacagc agagagaaat ggaaatgga attgtgcaa ctaaagggaat 900
 acatttcagc caacaagatg atcataaact gtatagtcaa gattctcagt cacctgctgc 960
 tcaacaggaa acatagcaat tagctcataa tcaaatgtta gtggtcaggt cacatgtgca 1020
 tctggaatgt ggtgaatcag ttatatccaa taatagcttc aaaggcagaa tttagagaga 1080
 ttgaggatgc ttttgttttt aacaaaaggg tttcacactt tgaaaatttt ttgagcaact 1140
 agttgttgat gttgagagca gttgatccat aaatctgggtg tgtgaatgtt tcaagcagaa 1200
 attaatttaa atgtgtgttt aggaagtact taacttgga gatgtatcat ttttcttaa 1260
 atgcatgttt aaattttatt tttttaagta atttttaaaa agtttattaa tgttaaattt 1320
 atgatgcaga atgatagcat cagatgtctg cagctgaaaa aaatttacta ctatgaacct 1380
 ccaaaatatt cagttgcaag aaaatttgat tctaaaatta ttcatggtag gatacgtaac 1440
 acacccttc caaactttta aaaaatacat tttagcacatg tgctatgaaa gcatacgtac 1500
 aaagagaaag gggaaagtga tttataattc ctacaacaga ggccaagaaa tagattaaaa 1560
 tattttcaag accccaaaat aatgtattat ggttggaag tcagtagaac actggaatag 1620
 gtgaagacct gacagtaatt tttgtcttaa gaatgcttct tttaggacag accctttaac 1680
 ctcacctctg tgcactctgt tttaaaatga ttatatttgc ctctgatatt tgaaagcact 1740
 tttgtagttt tgatgatgaa aaatatatta aacgtgcata ttaccattat ttaggaaata 1800
 attccttata tactgtgata aatcattgct gttacataga gtaacatgcc ttaattacat 1860
 ttaatgcctt actgctttat gtaagtaaat ccaagtttca gaattaaaaa taagcattat 1920
 ttcatatggt ccaatcagat tcgttacata ggctatataa atttgtctcc attttacca 1980
 tcaagcacia ataattgggt caaaactgcc tttgaggtct gttgaagaaa atggttcatt 2040
 aagcaaaaaa agagtagagg tattttata tagcagtaac agacaaatta tttagtaatc 2100
 ccttaacctc tgtttttcaa agagaaaaa tccaatttag acttttttcc tgatctctat 2160
 atatgcatc aaattgggaa acaaaggcca aaggtgtata gattgcttga aagggggtgg 2220
 taggcctctt ttaagatct gtgagtcggc tacagtctgg ctaagtaaga agcatttgca 2280
 tactgattcc atcatttaat ctttaaaagt atgtgtttta aaaatgtaac cagaatgatt 2340
 cttcaataga aatgagattt ggtggagtct ggattgcctg ttttgtatat aatatatact 2400
 taagatatat aataccacct cattttctgg gcattatttc ctaattgttg atgtttcagg 2460
 cttttgataa gtcattttat atatttcaa ttaactcag aataagtaaa tatttatggc 2520
 aaatgcagtt ttatgtactt tcaggagaag accatcagga aaagacagga caaagaagtc 2580
 aaacattaaa gcccttgcaa atatttagagg accttagaca attacaaaaa agtgtttaat 2640
 agggaggttg caaatgatcc tcttagtaaa ttaaacattt aaaaagtagt tttaatgtgc 2700
 cttgggcac tcgaaaagaa gagtgtgata taatttatgc ttagtgtaa ctggtcattt 2760
 tacattgtat ttattaagtc tgctgaaaaa tgaggtttta aggaagaaaa tgcagattat 2820
 tttagggtaa acaggccagg tgccttttga agaactttgt ttacatcaaa ttgatgaaat 2880
 tacagtcagt gattccttac ttttttgcgt agttgtactt tgaaattgtt atgggttcgt 2940
 tttccaaaat atgtaactta ttttttaaag gaataagggt tgctgtgtat ttgttgatta 3000
 aaaatcattt gtcttcgaga gtatcctttt ttgaaggaaa tatacatcct tataacacat 3060
 caggtagttt tcttttttct gtatttaaat tatatatttg aattaattga atataatttg 3120
 agttacatat aattctatat aaagggtaca tattgaatta tgggttcta ctgttttagga 3180
 aagaaatgaa ttttctaagc atttaataca tttggaataa ttttagtttc taaaaagtac 3240
 taatgtaagt taagtttata tcaaatgcaa attaccttgt ataactaaca agcacagtta 3300
 ttgtttaca ttatggattt taattgtgtg gacacccttc tttgaatttg ttgctttaca 3360
 tgtgtgtctg tgtgtgtgtc tgcagtgtg cagcatgta cttgtatgca atgtaaaagt 3420
 aacagcagaa tcattgcatt tggtttactt aaaattttgg agttagcaag taaacaaaaa 3480
 gctgatagtt ttatgaagtc tcggttaaaa taaaatttct ttgctatctc actccttagga 3540
 agttatggag ttcatatttt caaaagatat gttaaaaatg gttacacact ctgctggcca 3600

cattaaaaat tagaagactc atgttaaatt atctctcca aaggactttt tatttacagc 3660
 ttttcttttc ctggactcta cctgcttggt tcagtgtcct gaagagttat ttaaataaac 3720
 cactacttag taattagttc ttttttaaag tatctacttc taaaattacc tagttgaaaa 3780
 tatgaaggat atgcttagtt ttagaaatat catgaagcaa ggatctagtc agtggtacag 3840
 ggtaaagggt gagtttttta aagtctgtat ttaaattgggt cactgatgga ttcattttta 3900
 atttgcatca caaaaatggt gctcaggtaa tcagtatttt ctccacgta tgtgcatatt 3960
 gcaactgttag atcatagaaa tatctgaatg ctttaatttt tatgtatgca aaatctataa 4020
 atcttttgta taatgtattt tatacaaatg taactgtaga acattggttag catgtgtatc 4080
 tgtaaaacca gtttttaaaa ttttttgccc cttatttttc atattttgaa agatctccaa 4140
 catgtaataa agtttctctt attcaatcta aaaaaaaaaa aaaa 4184

<210> 58
 <211> 306
 <212> PRT
 <213> Homo sapiens

<400> 58
 Met Ala Gly Arg His Gln Asn Arg Ser Phe Pro Leu Pro Gly Val Gln
 1 5 10 15
 Ser Ser Gly Gln Val His Ala Phe Gly Asn Cys Ser Asp Ser Asp Ile
 20 25 30
 Leu Glu Glu Asp Ala Glu Val Tyr Glu Leu Arg Ser Arg Gly Lys Glu
 35 40 45
 Lys Val Arg Arg Ser Thr Ser Arg Asp Arg Leu Asp Asp Ile Ile Val
 50 55 60
 Leu Thr Lys Asp Ile Gln Glu Gly Asp Thr Leu Asn Ala Ile Ala Leu
 65 70 75 80
 Gln Tyr Cys Cys Thr Val Ala Asp Ile Lys Arg Val Asn Asn Leu Ile
 85 90 95
 Ser Asp Gln Asp Phe Phe Ala Leu Arg Ser Ile Lys Ile Pro Val Lys
 100 105 110
 Lys Phe Ser Ser Leu Thr Glu Thr Leu Cys Pro Pro Lys Gly Arg Gln
 115 120 125
 Thr Ser Arg His Ser Ser Val Gln Tyr Ser Ser Glu Gln Gln Glu Ile
 130 135 140
 Leu Pro Ala Asn Asp Ser Leu Ala Tyr Ser Asp Ser Ala Gly Ser Phe
 145 150 155 160
 Leu Lys Glu Val Asp Arg Asp Ile Glu Gln Ile Val Lys Cys Thr Asp
 165 170 175
 Asn Lys Arg Glu Asn Leu His Glu Val Val Ser Ala Phe Thr Ala Gln
 180 185 190
 Gln Met Arg Phe Glu Pro Asp Asn Lys Asn Thr Gln Arg Lys Asp Pro
 195 200 205
 Tyr Tyr Gly Ala Asp Trp Gly Ile Gly Trp Trp Thr Ala Val Val Ile
 210 215 220
 Met Leu Ile Val Gly Ile Ile Thr Pro Val Phe Tyr Leu Leu Tyr Tyr

225 230 235 240
 Glu Ile Leu Ala Lys Val Asp Val Ser His His Ser Thr Val Asp Ser
 245 250 255
 Ser His Leu His Ser Lys Ile Thr Pro Pro Ser Gln Gln Arg Glu Met
 260 265 270
 Glu Asn Gly Ile Val Pro Thr Lys Gly Ile His Phe Ser Gln Gln Asp
 275 280 285
 Asp His Lys Leu Tyr Ser Gln Asp Ser Gln Ser Pro Ala Ala Gln Gln
 290 295 300
 Glu Thr
 305

<210> 59
 <211> 3191
 <212> DNA
 <213> Homo sapiens

<400> 59
 cagaggcttt tatccatggg gccaatataa ccgaggaggc tatggaaact atcgctcaaa 60
 ttggcagaat taccggcaag catacagtc tcgtcgaggc cgttcaagat cccgggtcccc 120
 aaagagaagg tccccctcac caagggtccag gagccattct agaaaactctg ataagtcgtc 180
 ttctgaccgg tcaaggcgct cctcactctc ccgttcttcc tccaaccata gccgagttga 240
 atcttctaag cgcaagtctg caaaggagaa aaagtctctt tctaaggata gccggccatc 300
 tcaggctgcc ggggataacc agggagatga ggtcaaggag cagacattct ctggaggcac 360
 ctctcaagat acaaaagcat ctgagagctc gaagccatgg ccagatgcc cctacggcac 420
 tgggttctgca tcacgggctt cagcagtttc tgagctgagt cctcgggagc gaagcccagc 480
 tctcaaaagc cccctccagt ctgtggtggt gaggcggcgg tcaccccgct ctagcccggtg 540
 ccaaaaacct agtctctcac tttccagcac atcccagatg ggctcaactc tgccgagttg 600
 tgccgggtat cagtctggga cacaccaagg tcagttcgac catggttctg ggtccctgag 660
 tccatccaaa aagagccctg tgggtaagag tccaccatcc actgggtcca catatggctc 720
 atctcagaag gaggagagtg ctgcttcagg aggagcagcc tatacaaaga ggtttctaga 780
 agagcagaag acagagaatg gaaaagataa ggaacagaaa caaacaataa ccgattaaga 840
 aaaaataaaa gagaaaggga gcttctctga cacaggcttg ggtgatggaa aaatgaaatc 900
 tgattctttt gctcccaaaa ctgattctga gaagcctttt cggggcagtc agtctcccaa 960
 aaggtataag ctccgagatg actttgagaa gaagatggct gacttccaca aggaggagat 1020
 ggatgatcaa gataaggaca aagctaaggg aagaaggaa tctgagtttg atgatgaacc 1080
 caaatttatg tctaaagtca taggtgcaaa caaaaaccag gaggaggaga agtcaggcaa 1140
 atgggagggc ctggtatatg cacctccagg gaaggaaaag cagagaaaaa cagaggagct 1200
 ggaggaggag tctttccag agagatccaa aaagggaagat cggggcaaga gaagcgaagg 1260
 tgggcacagg ggctttgtgc ctgagaagaa tttccgagtg actgcttata aagcagttcca 1320
 ggagaaaagc tcatcacctc ccccaagaaa gacctctgag agccgagaca agctgggagc 1380
 gaaaggagat tttcccacag gaaagtcttc cttttccatt actcgagagg cacaggtcaa 1440
 tgtccggatg gactcttttg atgaggacct cgcacgacct agtggcttat tggctcagga 1500
 acgcaagctt tgccgagatc tagtccatag caacaaaaag gaacaggagt ttcgttccat 1560
 tttccagcac atacaatcag ctcaagtctc gcgtagcccc tcagaactgt ttgcccaca 1620
 tatagtgacc attgttcacc atgttaaaga gcatcacttt gggctcctcag gaatgacatt 1680
 acatgaacgc tttactaaat acctaaagag aggaactgag caggaggcag ccaaaaacaa 1740
 gaaaagccca gagatacaca ggagaataga catttcccc agtacattca gaaaacatgg 1800
 tttggtcat gatgaaatga aaagtcccg ggaacctggc tacaaggctg agggaaaata 1860
 caaagatgat cctgttgatc tccgccttga tattgaacgt cgtaaaaaac ataaggagag 1920
 agatcttaaa cgaggtaaat cgagagaatc agtggattcc cgagactcca gtcactcaag 1980
 ggaaaggtca gctgaaaaaa cagagaaaac tcataaagga tcaaaagaaac agaagaagca 2040
 tccgagagca agagacaggt ccagatcctc ctctcttcc tcccagtcac ctcactccta 2100
 caaagcagaa gagtacactg aagagacaga ggaaagagag gagagcacca cgggctttga 2160

```

caaatcaaga ctggggacca aagactttgt ggtccaagt gaaagaggag gtggcagagc 2220
tcgaggaacc tttcagtttc gagccagagg aagaggctgg ggcagaggca actactctgg 2280
gaacaataac aacaacagca acaacgattt tcaaaaaaga aaccgggaag aggagtggga 2340
cccagagtac acacccaaaa gtaagaagta taacttgcat gatgaccgtg aaggcgaagg 2400
cagtgcacaag tgggtgagcc ggggccgggg ccgaggagcc tttcctcggg gtcggggccg 2460
gttcatgttc cggaaatcaa gtaccagccc caagtgggcc catgacaagt tcagtgggga 2520
ggaaggggag attgaagacg acgagagtgg gacagagaac cgagaagaga aggacaatat 2580
acagcccaca accgagtagg ggcaccctt gacgggattc ctgccaggg gagagaggcg 2640
ctgggaagat ggctggtgag gagcttaaca gaggaacctc aagaagattc tgaaaatcct 2700
acccccacc ccaccagcc gcacagattg tactaccgag agaggcatcc ctggcgctgt 2760
ctccactgag acagaggagg ctggccatgg ggcacagggg tcaggcccg cttttgagca 2820
gaatacaacg cattgggctt tagctgtttt tctcatttgt tgggtgtgtg ggtgggggca 2880
ggggtagggc gggagagcga tgcttgatt tttgtttcct attagaaacc aacagttttg 2940
ttctaatttc atttcattgg gagctaagat gactaattgg atgattttcg atctcttttc 3000
ccctgtcctg attttaaaag cccctcctt tttttttttt tttttctttt ttttaggcata 3060
tgtagtaata ttagaaacat ttaatttggg aaactttgat tcttgaaaga gaaaacaaaa 3120
gcatgtgaat aaactttgaa gtgttcacct caaaaaaaaa aaaaaaaaaa aaaaaaaaaa 3180
aaaaaaaaa a 3191

```

<210> 60

<211> 568

<212> PRT

<213> Homo sapiens

<400> 60

```

Met Lys Ser Asp Ser Phe Ala Pro Lys Thr Asp Ser Glu Lys Pro Phe
  1                      5                      10                     15

Arg Gly Ser Gln Ser Pro Lys Arg Tyr Lys Leu Arg Asp Asp Phe Glu
      20                      25                     30

Lys Lys Met Ala Asp Phe His Lys Glu Glu Met Asp Asp Gln Asp Lys
      35                      40                     45

Asp Lys Ala Lys Gly Arg Lys Glu Ser Glu Phe Asp Asp Glu Pro Lys
      50                      55                     60

Phe Met Ser Lys Val Ile Gly Ala Asn Lys Asn Gln Glu Glu Glu Lys
      65                      70                     75                     80

Ser Gly Lys Trp Glu Gly Leu Val Tyr Ala Pro Pro Gly Lys Glu Lys
      85                      90                     95

Gln Arg Lys Thr Glu Glu Leu Glu Glu Glu Ser Phe Pro Glu Arg Ser
      100                     105                    110

Lys Lys Glu Asp Arg Gly Lys Arg Ser Glu Gly Gly His Arg Gly Phe
      115                     120                    125

Val Pro Glu Lys Asn Phe Arg Val Thr Ala Tyr Lys Ala Val Gln Glu
      130                     135                    140

Lys Ser Ser Ser Pro Pro Pro Arg Lys Thr Ser Glu Ser Arg Asp Lys
      145                     150                    155                    160

Leu Gly Ala Lys Gly Asp Phe Pro Thr Gly Lys Ser Ser Phe Ser Ile
      165                     170                    175

Thr Arg Glu Ala Gln Val Asn Val Arg Met Asp Ser Phe Asp Glu Asp
      180                     185                    190

```

Leu Ala Arg Pro Ser Gly Leu Leu Ala Gln Glu Arg Lys Leu Cys Arg
 195 200 205
 Asp Leu Val His Ser Asn Lys Lys Glu Gln Glu Phe Arg Ser Ile Phe
 210 215 220
 Gln His Ile Gln Ser Ala Gln Ser Gln Arg Ser Pro Ser Glu Leu Phe
 225 230 235 240
 Ala Gln His Ile Val Thr Ile Val His His Val Lys Glu His His Phe
 245 250 255
 Gly Ser Ser Gly Met Thr Leu His Glu Arg Phe Thr Lys Tyr Leu Lys
 260 265 270
 Arg Gly Thr Glu Gln Glu Ala Ala Lys Asn Lys Lys Ser Pro Glu Ile
 275 280 285
 His Arg Arg Ile Asp Ile Ser Pro Ser Thr Phe Arg Lys His Gly Leu
 290 295 300
 Ala His Asp Glu Met Lys Ser Pro Arg Glu Pro Gly Tyr Lys Ala Glu
 305 310 315 320
 Gly Lys Tyr Lys Asp Asp Pro Val Asp Leu Arg Leu Asp Ile Glu Arg
 325 330 335
 Arg Lys Lys His Lys Glu Arg Asp Leu Lys Arg Gly Lys Ser Arg Glu
 340 345 350
 Ser Val Asp Ser Arg Asp Ser Ser His Ser Arg Glu Arg Ser Ala Glu
 355 360 365
 Lys Thr Glu Lys Thr His Lys Gly Ser Lys Lys Gln Lys Lys His Pro
 370 375 380
 Arg Ala Arg Asp Arg Ser Arg Ser Ser Ser Ser Ser Ser Gln Ser Ser
 385 390 395 400
 His Ser Tyr Lys Ala Glu Glu Tyr Thr Glu Glu Thr Glu Glu Arg Glu
 405 410 415
 Glu Ser Thr Thr Gly Phe Asp Lys Ser Arg Leu Gly Thr Lys Asp Phe
 420 425 430
 Val Gly Pro Ser Glu Arg Gly Gly Gly Arg Ala Arg Gly Thr Phe Gln
 435 440 445
 Phe Arg Ala Arg Gly Arg Gly Trp Gly Arg Gly Asn Tyr Ser Gly Asn
 450 455 460
 Asn Asn Asn Asn Ser Asn Asn Asp Phe Gln Lys Arg Asn Arg Glu Glu
 465 470 475 480
 Glu Trp Asp Pro Glu Tyr Thr Pro Lys Ser Lys Lys Tyr Asn Leu His
 485 490 495
 Asp Asp Arg Glu Gly Glu Gly Ser Asp Lys Trp Val Ser Arg Gly Arg
 500 505 510

Gly Arg Gly Ala Phe Pro Arg Gly Arg Gly Arg Phe Met Phe Arg Lys
 515 520 525

Ser Ser Thr Ser Pro Lys Trp Ala His Asp Lys Phe Ser Gly Glu Glu
 530 535 540

Gly Glu Ile Glu Asp Asp Glu Ser Gly Thr Glu Asn Arg Glu Glu Lys
 545 550 555 560

Asp Asn Ile Gln Pro Thr Thr Glu
 565

<210> 61

<211> 3145

<212> DNA

<213> Homo sapiens

<400> 61

```
gtccccgtcc ggcagactac tctcccccat ggcggacttc gctgggccgt cttctgccgg 60
ccgcaaggcc ggggctcccc gctgctctcg aaaagccgca ggtactaac agacgagtac 120
tttgaacaaa gaagatgctt ctaaaagggg aggttcatta cgacctgctc actacagtga 180
tgtcgtggat gaacgttcta ttgtcaaaact ctgtggttat cctttatgtc agaagaagct 240
gggaattgta ccaaaacaga aatataaaat ttctaccaa accaataaag tctatgatat 300
tactgaaaga aagtcttttt gcagcaattt ttgttatcaa gcatctaagt tttttgaagc 360
acaaattccc aaaactccag tatgggttcg agaagaagag aggcacccctg attttcaact 420
gctaaaggaa gaacaaagtg gccattcttg agaagaagta cagttatgca gtaaagccat 480
taaaacatca gatatcgaca atcctagcca ctttgaaaag caatatgaat ctagtctctc 540
tagcactcac agtgatagta gcagtgacaa tgagcaagac tttgtttcct ccattctacc 600
aggaacacaga ccaaatccaa caaatattag accacagctg caccacaaaa gcataatgaa 660
aaagaagct ggtcacaaag ctaactccaa acacaagcac aaagaacaga cagtagtaga 720
tgtcactgag cagttaggcg attgcaaatt agatagtcag gagaaagatg ctacatgtga 780
acttccttta cagaagtaa atactcagag ttcttcaaat agcactttgc ctgaaagatt 840
aaaagcgtca gaaaattctg aaagtgaata cagtaggtca gaaataactc tggtaggcag 900
aagtaagaaa agtgcagagc attttaagag aaaatttgcc aaatcaaacc aagtgtctag 960
gtcagtgctc aattcagtc aggtgtgtcc tgaagttgga aagagaaact tacttaaagt 1020
tttgaaggag actttgattg agtgaagac agaagaaaca ttgaggtttt tgtatggcca 1080
gaattatgct tctgtgtgtc tgaaacccga agcctctctg gttaaagaag aacttgatga 1140
agatgacata atctcagatc cagatagtc tttccctgcc tggagggaat ctcagaacag 1200
cttgatgag tctttacctt ttaggggctc aggtacagcc attaaaccac tgccaagtta 1260
cgagaatttg aaaaaagaaa ctgaaaagt aaatctgagg atcaggaggg ttacagagg 1320
acggtatggt ttgggtgaag aaaccaccaa atcacaagac tcagaagagc atgattccac 1380
ctttccactg atagactcaa gttcccagaa ccagattaga aaacgcacg tacttgaaaa 1440
gttgagtaaa gtgttgccct ggctctctgt tctctctcag attacattgg gagatattta 1500
cacacaactt aaaaatcttg ttgcaacttt cagggttaaca aatagaaata ttatacacia 1560
acctgcgga tggacttta ttgctatggt gttgctgtca ttactgacc caattcttgg 1620
cattcagaaa cattctcagg aaggtatggt gtttacacgg tttctagaca cctccttga 1680
agaattacat ctaaaaaatg aagaccttga aagtctaacc atcatattta gaaccagctg 1740
tttaccagag tgatatattc catgaagaca aaatagaaga tgaacttcta ttcaccgttt 1800
ctggaattct agccgccatg atggtctggt ggtgactgat aactagtttt attccaagac 1860
atacctttac ctctttaagt ttcaatctcc catctcccag tctctcagtc cccaactgca 1920
gaggatgacc tccccagata gaggagaatc attactccaa caagaataac caagtctttg 1980
tatccctagt acaagacata gtatttttat tcgaaaatga atgtttaagt attaaattga 2040
aacttgaatg aatattcaag aaaatataat gatctctact tttctggat gatttccagc 2100
catcatatca gtttgccaaa aaaattgaga aagttatgat tttgacctc caacctaaac 2160
tctaaattct aaagatcagt aaacaattag gtcaataaat acatacaatt taagatgaag 2220
ccctttggaa gtctagtcca aaacaggaat atctcagaac tttctggact caaggaaatg 2280
ctttaaattg aatctgtagt ttgtttgcag gagagacaat ttctagaatt tagattgctt 2340
ttcaaatgt ttatcaggta ggcaagttag cagttgaggc ggaacacaga caacttgggg 2400
```

```

agctttactg gaaggccaag aaaatactct tggacactgg aggaaatgac agctactaaa 2460
gcccaatcat ggaaaaggac cagaaagcag cccactggaa tggggagctt agtgggcaag 2520
gaggtaggga tataatctct cttcttggct ccaccagtaa ttagctctgt ggcccagtca 2580
cctaaacttt ctggacttca gttcagggtt tatggcagta ggccatagaa ttggctactg 2640
ccatacaatc tctatgggaa aggactgcaa aaactaaatt ttatctctgt atgggcaag 2700
gctactgtca tcctgttgtt ggtctggggc cactctgaca attttttta acctcatttg 2760
attgtgtaag ggtctaacca caacaaaaaa tcatagtgtg atagaattaa tcaagttcag 2820
caaggtcaca ggctagatca atatacagaa aatcaattgt attttctgt tcagaaaact 2880
ccaaaaatga aataaagaaa attgtgttca caatatcacc aaagagatta aatacttagg 2940
aataaattta acaaaataag tgtaagactt gtataacgaa aactataaaa cattcaagag 3000
ggctgggcat ggtggctcat gcctttagtt ctacgcgttt ggaggcagag gcaggaggac 3060
tgcttgagcc caggagttca agaccagcct gggcaacaaa gtgagaccct gtctccacaa 3120
aaaaaaaaa aaaaaaaaaa aaaaaa 3145

```

<210> 62

<211> 574

<212> PRT

<213> Homo sapiens

<400> 62

```

Met Ala Asp Phe Ala Gly Pro Ser Ser Ala Gly Arg Lys Ala Gly Ala
  1             5             10             15

```

```

Pro Arg Cys Ser Arg Lys Ala Ala Gly Thr Lys Gln Thr Ser Thr Leu
          20             25             30

```

```

Lys Gln Glu Asp Ala Ser Lys Arg Gly Gly Ser Leu Arg Pro Ala His
          35             40             45

```

```

Tyr Ser Asp Val Val Asp Glu Arg Ser Ile Val Lys Leu Cys Gly Tyr
          50             55             60

```

```

Pro Leu Cys Gln Lys Lys Leu Gly Ile Val Pro Lys Gln Lys Tyr Lys
          65             70             75             80

```

```

Ile Ser Thr Lys Thr Asn Lys Val Tyr Asp Ile Thr Glu Arg Lys Ser
          85             90             95

```

```

Ile Ser Thr Lys Thr Asn Lys Val Tyr Asp Ile Thr Glu Arg Lys Ser
          85             90             95

```

```

Phe Cys Ser Asn Phe Cys Tyr Gln Ala Ser Lys Phe Phe Glu Ala Gln
          100             105             110

```

```

Ile Pro Lys Thr Pro Val Trp Val Arg Glu Glu Glu Arg His Pro Asp
          115             120             125

```

```

Phe Gln Leu Leu Lys Glu Glu Gln Ser Gly His Ser Gly Glu Glu Val
          130             135             140

```

```

Gln Leu Cys Ser Lys Ala Ile Lys Thr Ser Asp Ile Asp Asn Pro Ser
          145             150             155             160

```

```

His Phe Glu Lys Gln Tyr Glu Ser Ser Ser Ser Thr His Ser Asp
          165             170             175

```

```

Ser Ser Ser Asp Asn Glu Gln Asp Phe Val Ser Ser Ile Leu Pro Gly
          180             185             190

```

```

Asn Arg Pro Asn Ser Thr Asn Ile Arg Pro Gln Leu His Gln Lys Ser
          195             200             205

```

Ile Met Lys Lys Lys Ala Gly His Lys Ala Asn Ser Lys His Lys His
 210 215 220
 Lys Glu Gln Thr Val Val Asp Val Thr Glu Gln Leu Gly Asp Cys Lys
 225 230 235 240
 Leu Asp Ser Gln Glu Lys Asp Ala Thr Cys Glu Leu Pro Leu Gln Lys
 245 250 255
 Val Asn Thr Gln Ser Ser Ser Asn Ser Thr Leu Pro Glu Arg Leu Lys
 260 265 270
 Ala Ser Glu Asn Ser Glu Ser Glu Tyr Ser Arg Ser Glu Ile Thr Leu
 275 280 285
 Val Gly Ile Ser Lys Lys Ser Ala Glu His Phe Lys Arg Lys Phe Ala
 290 295 300
 Lys Ser Asn Gln Val Ser Arg Ser Val Ser Asn Ser Val Gln Val Cys
 305 310 315 320
 Pro Glu Val Gly Lys Arg Asn Leu Leu Lys Val Leu Lys Glu Thr Leu
 325 330 335
 Ile Glu Trp Lys Thr Glu Glu Thr Leu Arg Phe Leu Tyr Gly Gln Asn
 340 345 350
 Tyr Ala Ser Val Cys Leu Lys Pro Glu Ala Ser Leu Val Lys Glu Glu
 355 360 365
 Leu Asp Glu Asp Asp Ile Ile Ser Asp Pro Asp Ser Pro Phe Pro Ala
 370 375 380
 Trp Arg Glu Ser Gln Asn Ser Leu Asp Glu Ser Leu Pro Phe Arg Gly
 385 390 395 400
 Ser Gly Thr Ala Ile Lys Pro Leu Pro Ser Tyr Glu Asn Leu Lys Lys
 405 410 415
 Glu Thr Glu Lys Leu Asn Leu Arg Ile Arg Glu Phe Tyr Arg Gly Arg
 420 425 430
 Tyr Val Leu Gly Glu Glu Thr Thr Lys Ser Gln Asp Ser Glu Glu His
 435 440 445
 Asp Ser Thr Phe Pro Leu Ile Asp Ser Ser Ser Gln Asn Gln Ile Arg
 450 455 460
 Lys Arg Ile Val Leu Glu Lys Leu Ser Lys Val Leu Pro Gly Leu Leu
 465 470 475 480
 Val Pro Leu Gln Ile Thr Leu Gly Asp Ile Tyr Thr Gln Leu Lys Asn
 485 490 495
 Leu Val Arg Thr Phe Arg Leu Thr Asn Arg Asn Ile Ile His Lys Pro
 500 505 510
 Ala Glu Trp Thr Leu Ile Ala Met Val Leu Leu Ser Leu Leu Thr Pro
 515 520 525

Ile Leu Gly Ile Gln Lys His Ser Gln Glu Gly Met Val Phe Thr Arg
 530 535 540

Phe Leu Asp Thr Leu Leu Glu Glu Leu His Leu Lys Asn Glu Asp Leu
 545 550 555 560

Glu Ser Leu Thr Ile Ile Phe Arg Thr Ser Cys Leu Pro Glu
 565 570

<210> 63
 <211> 1812
 <212> DNA
 <213> Homo sapiens

<400> 63
 atttacttta aaaagaaatt aatatggctt caccaagaag caaagttcaa cttatttcat 60
 aattgcctac atttatcatg gtccctgaatg tagcgtgtaa gcttgtgttt cttgggcagt 120
 ctttcttgaa attgaagagg tgaaatgggg gtggggagtg ggaggaaagg tgacttcctc 180
 tgggtgttat tataaagcctt aaattttata tcatttttaa atgtcttggc cttctactgc 240
 cttgaaaaat gacaattgtg aacatgtagg ttaaactacc acttttttta accattatta 300
 tgcaaaattt agaagaaaag ttattggcat ggttgttgca tatagttaa ctgagagtaa 360
 ttcatctgtg aatctgcttt aattacctgg tgagtaactt agaaaagtgg tgtaaacttg 420
 tacatggaat tttttgaata tgccttaatt tagaaactga aaaatatctg gttatatcat 480
 tctgggtgtg ttcttactga caccaggggt ccgctgcccc atgtgtcctg gtgagaaata 540
 tatgcctggc acagcttttg tatagaaaat tcttgagaag taactgtccg ctagaagtct 600
 gtccaaattt aaaatgtgtg ccatattctg gttcttgaaa ataagattcc agagctcttt 660
 gatcgctttt ataactgcag ttcattttta tgaggggcca gcatatatac ttgcaagata 720
 attttcagct gcaaggattc agcaccagtt atgtttgaat gaacctcttt tctctgagat 780
 tctggtcctg gaaatccctt ctgctagtgg tgagcatgta agtgaagtt ttaatctggg 840
 agcaggcat aggaagaaaa tgcagtagt gctaatacat tttgcactag aacgcttcgg 900
 gaaaatattc atgcttgcca tctgttcatt tctaaattta tattcataaa gttacagttt 960
 gatacaggaa ttattaggag taattctttt cttgtttctg tttataatga agaacactgt 1020
 agctacattt tcagaagtta acatcaagcc atcaaacctg ggtatagtgc agaaaacgtg 1080
 gcacacactg accacacatt aggctgtgtc accattgtgt ggtgtacctg ctggaagaat 1140
 tctagcatgc tacttgggga cataatttca gtgggaaata tgccactgac cgattttttt 1200
 tttttcctct tgcagtgagg gctaggacag ttgattcaac aaagtatttt tttctttttt 1260
 ctacgtccta atttgaacag gtcaaagatg tgttcaggca ttccaggtaa cagggtgtgta 1320
 tgtaaagtta aaaataggct ttttaggaac tcactcttta gatatttaca tccagcttct 1380
 catgttaaat atttgcctt aaagggtttg agatgtacat ctttcatttc gtatttctca 1440
 taggctatgc catgtgcgga attcaagtta ccaatgtaac actggccagc gggccagca 1500
 atctccatgt gtacttatta cagtcttatt taaccagggg tcctaaccac taacattgtg 1560
 actttgcttt gagaccttc ctctcctggg tactgaggtg ctatgaagcc aactgacaaa 1620
 gatgcatcac gtgtcttagg ctgatgccac taccgattt gtttatttgc aatttgagcc 1680
 atttaaagac caataaactt ccttttttaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1740
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1800
 aaaaaaaaaa aa 1812

<210> 64
 <211> 98
 <212> PRT
 <213> Homo sapiens

<400> 64
 Met Leu Leu Gly Asp Ile Ile Ser Val Gly Asn Met Pro Leu Thr Asp
 1 5 10 15
 Phe Phe Phe Phe Leu Phe Ala Val Gly Leu Gly Gln Leu Ile Gln Gln
 20 25 30

Ser Ile Phe Phe Phe Phe Leu Ser Pro Asn Leu Asn Arg Ser Lys Met
 35 40 45

Cys Ser Gly Ile Pro Gly Asn Arg Cys Val Cys Lys Val Lys Asn Arg
 50 55 60

Leu Phe Arg Asn Ser Leu Phe Arg Tyr Leu His Pro Ala Ser His Val
 65 70 75 80

Lys Tyr Leu Ser Leu Lys Gly Leu Arg Cys Thr Ser Phe Ile Ser Tyr
 85 90 95

Phe Ser

<210> 65
 <211> 1558
 <212> DNA
 <213> Homo sapiens

<400> 65
 gtcgacagg cgcagctag agtcggcgcc accagggggc cgagcatggt gcggcggcgg 60
 cggggcgctc cggggaggcc aggacagctg atggttgtgg cagaaacatc tcaaggtagc 120
 tgggtccgccc ccacttccc catctacctc ttgtcctccc ccccaacacc accaccaccc 180
 tggctcccct cctcatgac cgcctggatc ctctgcctg tcagcctgtc agcgttctcc 240
 atcactggca tatggactgt gtatgccatg gctgtgatga accaccatgt atgccctgtg 300
 gagaactggt cctacaacga gtctgtccct cctgaccctg ctgagcaagg gggtecccaag 360
 acctgctgca ccctggacga tgtccccctc atcagcaagt gtggtccta tccccagaa 420
 agctgcctct tcagcctcat tggcaacatg ggtgctttca tggtgccct gatctgcctc 480
 ctgctgctacg ggcagctcct ggagcagagt cggcactctt gggtaaacac cacggcactc 540
 atcacaggct gcaccaacgc tgcgggcctc ttggtggttg gcaactttca ggtggatcat 600
 gccaggtctc tgcactacgt tggagctggc gtggccttcc ctgcggggct gctctttgtt 660
 tgctgcaact gtctctctcc taccaagggg ccaccgcccc gctggacctg gctgtggcct 720
 atctgcgaag tgtgtggct gtcatcgct ttatcacctt ggtcctcagt ggagtcttct 780
 ttgtccatga gatttctcag ctgcaacatg gggcagccct gtgtgagtgg gtgtgtgtca 840
 tccatatact cattttctat ggcacttca gctacgagtt tggggcagtc tcctcagaca 900
 cactggtggc tgcactgcag cctaccctg gccgggcctg caagtctcctc gggagcagca 960
 gcactccacc cactcaact gtgccccga gagcatcgct atgatctaag gtctggggag 1020
 ggtggtggc cgggtctcac agcaccaccc cccatatctt ctttccattt atttcgtacc 1080
 aaaaacaatt ttgagaaagt attctgttgg gatctgggct tcctcacttc tggagaagtg 1140
 gccatcccat gccacctgt gccatggagg agtgggccct gccagctgcc acagctgcat 1200
 gacctgcttc ccacccacg gtgtcgtttt gtttttaaaag gtcacctgtc ctcactcacc 1260
 cagccagccc ttcaggtgcc ttctactccc agtgccaaag ccagaccact ggggtttcct 1320
 gctgcaggaa ttgggggctg ggaacagcag aggggataga agtctggtgg aggtggagtg 1380
 ggcacgcctt agcctacgga aaggccatt tctgggcca ctgagctgca ctgggattct 1440
 tcagtctgcc cctcacttcc tttagggcaa ataacacagc agaaccacgt gggatattta 1500
 gtactttttt ttatattaaa agaattctaa tttgaaatcc cgattgaatt ctagacct 1558

<210> 66
 <211> 437
 <212> PRT
 <213> Homo sapiens

<400> 66
 Met Val Arg Arg Arg Arg Gly Ala Pro Gly Arg Pro Gly Gln Leu Met
 1 5 10 15

Val Val Ala Glu Thr Ser Gln Gly Ser Trp Ser Ala Pro His Phe Pro

20					25					30					
Ile	Tyr	Leu	Leu	Ser	Ser	Pro	Pro	Thr	Pro	Pro	Pro	Pro	Trp	Leu	Pro
		35					40					45			
Ser	Leu	Met	Thr	Ala	Trp	Ile	Leu	Leu	Pro	Val	Ser	Leu	Ser	Ala	Phe
		50				55					60				
Ser	Ile	Thr	Gly	Ile	Trp	Thr	Val	Tyr	Ala	Met	Ala	Val	Met	Asn	His
		65				70					75				80
His	Val	Cys	Pro	Val	Glu	Asn	Trp	Ser	Tyr	Asn	Glu	Ser	Cys	Pro	Pro
				85					90					95	
Asp	Pro	Ala	Glu	Gln	Gly	Gly	Pro	Lys	Thr	Cys	Cys	Thr	Leu	Asp	Asp
			100				105						110		
Val	Pro	Leu	Ile	Ser	Lys	Cys	Gly	Ser	Tyr	Pro	Pro	Glu	Ser	Cys	Leu
		115					120					125			
Phe	Ser	Leu	Ile	Gly	Asn	Met	Gly	Ala	Phe	Met	Val	Ala	Leu	Ile	Cys
		130				135					140				
Leu	Leu	Arg	Tyr	Gly	Gln	Leu	Leu	Glu	Gln	Ser	Arg	His	Ser	Trp	Val
		145				150					155				160
Asn	Thr	Thr	Ala	Leu	Ile	Thr	Gly	Cys	Thr	Asn	Ala	Ala	Gly	Leu	Leu
				165					170					175	
Val	Val	Gly	Asn	Phe	Gln	Val	Asp	His	Ala	Arg	Ser	Leu	His	Tyr	Val
			180					185					190		
Gly	Ala	Gly	Val	Ala	Phe	Pro	Ala	Gly	Leu	Leu	Phe	Val	Cys	Leu	His
		195					200					205			
Cys	Leu	Ser	Pro	Thr	Lys	Gly	Pro	Pro	Pro	Arg	Trp	Thr	Trp	Leu	Trp
		210				215						220			
Pro	Ile	Cys	Glu	Val	Cys	Trp	Leu	Ser	Ser	Pro	Leu	Ser	Pro	Trp	Ser
		225				230					235			240	
Ser	Val	Glu	Ser	Ser	Leu	Ser	Met	Arg	Val	Leu	Ser	Cys	Asn	Met	Gly
				245					250					255	
Gln	Pro	Cys	Val	Ser	Gly	Cys	Val	Ser	Ser	Ile	Ser	Ser	Phe	Ser	Met
			260					265					270		
Ala	Pro	Ser	Ala	Thr	Ser	Leu	Gly	Gln	Ser	Pro	Gln	Thr	His	Trp	Trp
			275				280					285			
Leu	His	Cys	Ser	Leu	Pro	Leu	Ala	Gly	Pro	Ala	Ser	Pro	Pro	Gly	Ala
		290					295					300			
Ala	Ala	Leu	His	Pro	Pro	Gln	Leu	Cys	Pro	Arg	Glu	His	Arg	Tyr	Asp
				310							315			320	
Leu	Arg	Ser	Gly	Glu	Gly	Gly	Trp	Pro	Gly	Ser	Thr	Ala	Pro	His	Pro
				325					330					335	
Ile	Ser	Ser	Phe	His	Leu	Phe	Arg	Thr	Lys	Asn	Asn	Phe	Glu	Lys	Val

340 345 350
 Phe Cys Trp Asp Leu Gly Phe Leu Thr Ser Gly Glu Val Ala Ile Pro
 355 360 365
 Cys Pro Pro Val Pro Trp Arg Ser Gly Pro Cys Gln Leu Pro Gln Leu
 370 375 380
 His Asp Leu Leu Pro Thr Pro Arg Cys Arg Phe Val Phe Lys Gly His
 385 390 395 400
 Leu Ser Ser Leu Thr Gln Pro Ala Leu Gln Val Pro Ser Thr Pro Ser
 405 410 415
 Ala Lys Ala Arg Pro Leu Gly Phe Pro Ala Ala Gly Ile Gly Gly Trp
 420 425 430
 Glu Gln Gln Arg Gly
 435

<210> 67
 <211> 2336
 <212> DNA
 <213> Homo sapiens

<220>
 <221> unsure
 <222> (418)

<400> 67
 atttattgag tgtctactgt gtgccaggca ctatatctat gtgcatagaa aaacctggaa 60
 gggcctacca caatacatat agagtgatcg tctctgcttg ctgagctaac aggggtgtca 120
 agcttccatt ttggtatcta cttctaaata cactcagaac aggagaaatt tggactaatt 180
 ttcaaaactac agacactttc taatcatgat gcattttcaaa agtggactcg aattaactga 240
 gttgcaaaac atgacagtgc ccgaggatga taacatcagc aatgactcca atgatttcac 300
 cgaagtagaa aatggtcaga taaatagcaa gtttatttct gatcgtgaaa gtagaagaag 360
 tctcacaac agccatttgg aaaaaaagaa gtgtgatgag tatattccag gtacaacntc 420
 cttaggcatg tttgttttta acctaagcaa ctccatgatg ggcagtggga tttgggactc 480
 gctttgcctt ggcaacactg gaatcctact ttttctggta cttttgactt cagtgcatt 540
 gctgtctata tattcaataa acctcctatt gatctgttca aaagaaacag gctgcatggt 600
 gtatgaaaag ctgggggaac aagtcttttg caccacaggy aagttcgtaa tctttggagc 660
 cacctctcta cagaacactg gagcaatgct gagctacctc ttcacgttaa aaaatgaact 720
 acctctgcc ataaagtctc taatgggaaa ggaagagaca ttttcagcct ggtacgtgga 780
 tggcgcggt ctggtggtga tagttacctt tggcataatt ctccctctgt gtctcttgaa 840
 gaacttaggg tatcttggt atactagtgg attttcttg agctgtatgg ttttttct 900
 aattgtggt atttacaaga aatttcaaat tcctgcatt gttccagagc taaattcaac 960
 aataagtgt aattcaacaa atgctgacac gtgtacgcca aaatatgtta cttcaattc 1020
 aaagaccgtg tatgctttac ccaccattgc atgtgcattt gtttgccacc cgtcagtcct 1080
 gccaatctac agtgagctta aagaccgatc acagaaaaaa atgcagatgg tttcaaacat 1140
 ctcttttttc gccatgtttg ttatgtactt cttgactgcc atttttggct acttgacatt 1200
 ctatgacaac gtgcagtcag acctccttca caaatatcag agtaaagatg acattctcat 1260
 cctgacagtg cggttggtg tcattgttgc tgtgacctc acagtgcggg tgttattttt 1320
 cacggttcgt tcacttttat ttgaactggc taagaaaaca aagtttaatt tatgtcgtca 1380
 taccgtggtt acctgcatac tcttggtgt tatcaacttg ttggtgatct tcataccctc 1440
 catgaaggat atttttggag tcgtaggagt tacatctgct aacatgctta ttttcattct 1500
 tccttcatct ctttatttaa aaatcacaga ccaggatgga gataaaggaa ctcaaagaat 1560
 ttgggtatgt ctcttgccag ccactctaac ttttctgatt agttttccat ttaaatttac 1620
 aaaataaata gtccacctct ctatcaagac tactttcagt tgccttgaaa ggaggcagaa 1680
 gccctgtagc tttgtactt gggagatatt taaaatatca taccagaatc ttctcccatc 1740

cctccaaata tcttttctgg ttttactctt tttttttgag atggagtctc actctgtcgc 1800
ccaggctgga gtgcagtggc cagatctcag ctactgttaa gctccacctc ccgggttcat 1860
gccattcttc tgcctcagag agtagctggg actacaggcg cccgccacca tgcctggcta 1920
attttttttc ttttttcttt tttctttttt gtatttttag tagagacggg gtttcacat 1980
gttagccagg atggctctga tctctgacc tcatgatccg tctgcctcgg cctcccacag 2040
tgctgggatt acaggcatga gccatcgcg ccggccctct gggtttactg ttattgtgcc 2100
tcagcttttg ttctgatcca gggcatggcc agtcagaaga atggacattc atcctcctgt 2160
gtctgtatag gacagtgtct agtcttcagc aagagaggaa gtgacgaggg actcacagat 2220
gttatgcagt cactgtttc catatgattt ctatgcatgt aactcctccc tacagcccag 2280
ggaacatgca atgccttaat taaaatgtct gagttagctt aaaaaaaaaa aaaaaa 2336

<210> 68
<211> 473
<212> PRT
<213> Homo sapiens

<400> 68
Met Met His Phe Lys Ser Gly Leu Glu Leu Thr Glu Leu Gln Asn Met
1 5 10 15
Thr Val Pro Glu Asp Asp Asn Ile Ser Asn Asp Ser Asn Asp Phe Thr
20 25 30
Glu Val Glu Asn Gly Gln Ile Asn Ser Lys Phe Ile Ser Asp Arg Glu
35 40 45
Ser Arg Arg Ser Leu Thr Asn Ser His Leu Glu Lys Lys Lys Cys Asp
50 55 60
Glu Tyr Ile Pro Gly Thr Thr Ser Leu Gly Met Phe Val Phe Asn Leu
65 70 75 80
Ser Asn Ser Met Met Gly Ser Gly Ile Trp Asp Ser Leu Cys Pro Gly
85 90 95
Asn Thr Gly Ile Leu Leu Phe Leu Val Leu Leu Thr Ser Val Thr Leu
100 105 110
Leu Ser Ile Tyr Ser Ile Asn Leu Leu Leu Ile Cys Ser Lys Glu Thr
115 120 125
Gly Cys Met Val Tyr Glu Lys Leu Gly Glu Gln Val Phe Gly Thr Thr
130 135 140
Gly Lys Phe Val Ile Phe Gly Ala Thr Ser Leu Gln Asn Thr Gly Ala
145 150 155 160
Met Leu Ser Tyr Leu Phe Ile Val Lys Asn Glu Leu Pro Ser Ala Ile
165 170 175
Lys Phe Leu Met Gly Lys Glu Glu Thr Phe Ser Ala Trp Tyr Val Asp
180 185 190
Gly Arg Val Leu Val Val Ile Val Thr Phe Gly Ile Ile Leu Pro Leu
195 200 205
Cys Leu Leu Lys Asn Leu Gly Tyr Leu Gly Tyr Thr Ser Gly Phe Ser
210 215 220
Leu Ser Cys Met Val Phe Phe Leu Ile Val Val Ile Tyr Lys Lys Phe

225 230 235 240
 Gln Ile Pro Cys Ile Val Pro Glu Leu Asn Ser Thr Ile Ser Ala Asn
 245 250 255
 Ser Thr Asn Ala Asp Thr Cys Thr Pro Lys Tyr Val Thr Phe Asn Ser
 260 265 270
 Lys Thr Val Tyr Ala Leu Pro Thr Ile Ala Cys Ala Phe Val Cys His
 275 280 285
 Pro Ser Val Leu Pro Ile Tyr Ser Glu Leu Lys Asp Arg Ser Gln Lys
 290 295 300
 Lys Met Gln Met Val Ser Asn Ile Ser Phe Phe Ala Met Phe Val Met
 305 310 315 320
 Tyr Phe Leu Thr Ala Ile Phe Gly Tyr Leu Thr Phe Tyr Asp Asn Val
 325 330 335
 Gln Ser Asp Leu Leu His Lys Tyr Gln Ser Lys Asp Asp Ile Leu Ile
 340 345 350
 Leu Thr Val Arg Leu Ala Val Ile Val Ala Val Ile Leu Thr Val Pro
 355 360 365
 Val Leu Phe Phe Thr Val Arg Ser Ser Leu Phe Glu Leu Ala Lys Lys
 370 375 380
 Thr Lys Phe Asn Leu Cys Arg His Thr Val Val Thr Cys Ile Leu Leu
 385 390 395 400
 Val Val Ile Asn Leu Leu Val Ile Phe Ile Pro Ser Met Lys Asp Ile
 405 410 415
 Phe Gly Val Val Gly Val Thr Ser Ala Asn Met Leu Ile Phe Ile Leu
 420 425 430
 Pro Ser Ser Leu Tyr Leu Lys Ile Thr Asp Gln Asp Gly Asp Lys Gly
 435 440 445
 Thr Gln Arg Ile Trp Val Cys Leu Leu Pro Ala Thr Leu Thr Phe Leu
 450 455 460
 Ile Ser Phe Pro Phe Lys Phe Thr Lys
 465 470

<210> 69
 <211> 1999
 <212> DNA
 <213> Homo sapiens

<400> 69
 tttttttttt tttttttttt ttttttaaag acagggtctc actctgtcac tcaggctgga 60
 atgtagtggc atgattatgg ctctactgcag cctctacttc ctgggccag gcaatcctct 120
 cacctcagct cctgagtagc tgggactaca ggcgcacacc acctcacttg gctaattaaa 180
 aaaaattttt tttttagtaa atgggggtct tccaatgttg cccatgctgg tcttgaactc 240
 ctggcctcaa gtgatcctcc caccttggcc tctaaattg ctgagattac agatgtgagc 300
 caccacgcc aacctaactt caagaactct tgaccatctc tgtttcttc ctgattttag 360

gccacaatg ttcactgtct tagtttttagg atgagactct aaatcttttt ttttttgaga 420
 tggagtctcg ctctgttgcc caggctggag tgcagtggca cgatctcggc tcaccacaac 480
 ctctgcctcc aggattcaag cgattgtcct gcctcagcta ctctcggga ggctgaggca 540
 ggagaatggc gtgaactccg gaggtggagc ctgtagtgag ccgagatggc accactgcgc 600
 tccagcctgg gcgacagagc aagactccat atcaaaaaaa aaaaaaaa aaaagataat 660
 ccaaagaatt taaattgtaa tcatgtttca tgtatttggt ttattactta cttttatagc 720
 acttagtccc agtgggtatta gactgctatt tggtttcata caaaaaggat taaatttaaa 780
 ttcattcatg tttagacttg agttattaca tttttaaaac tatcatcttg cctttaatgt 840
 ttgtggctct acacaaacta ttagtacatt tcagtatcct cttacccctt tgtttttaag 900
 tttttgattg ctaaagcaag acttttttct tctagaattt aagtcacca agtggtatct 960
 atgttgtaaa aatggataat agtagatttt aggtgataaa acaacttggt agtaagacat 1020
 ttcctagctt aaaaaaaaa atcaaaaatt ccatgataga aatgcagacc tgtgagggaa 1080
 actcctgaaa agcataagaa gcataccaga gagccatggg ttttctagac cagagaattt 1140
 agagggagat tgtggaactg aggccttaggt ggtcagatcg tttcccttat cactgtaata 1200
 tttctggggg aaaaatgctt tctgagttgt ttaacaagc atccttacat tttttttttt 1260
 aattaacag cctgtctagg cttgggattc cctaatacta cagtagcagt atatgaatat 1320
 gattttgtga ttgtgttttt taaaagataa gtaatttgat gaactgttct tttgcagtca 1380
 gaaaaacact cacaaaaaga caaaaaaagt tccacagtat tatatttcat gtcagttcag 1440
 gcctaaaatc ctttgcaaat aagatgttta taggctgggc acaattaaca atgtattatt 1500
 ggcagcactt cttggatgga taccttttgg gacctttcat tagaaaggag gaaagaatgg 1560
 ggtggttttg tatgggctcc tgtttggggg taaaaatagc agagtcagtt gctgaggaca 1620
 atgaccttcc ttataacatt agtttcatac ccatattagg tcttgtcttg aggacctttt 1680
 atatgtgctt gtttactagt ggccttcag ccatagcatt cttacctttt tttcctattc 1740
 taagaattaa aaaaaaaaaa tatagagcca gcaaggaggagg aggcaggaaa cagaaatcga 1800
 atttcatcat tccagtatag ttgtcccttt ttttgtattt ctgacttggt tttataatta 1860
 tatttactta ctaattattg ttttttaaca ttctttattg tggcttactc ttcatactta 1920
 gaattgaaat tgttgacat cacatgtata ttcacattat aaatacatca ttcttcact 1980
 gttaaaaaaa aaaaaaaaaa 1999

<210> 70

<211> 153

<212> PRT

<213> Homo sapiens

<400> 70

Met Asn Cys Ser Phe Ala Val Arg Lys Thr Leu Thr Lys Arg Gln Lys
 1 5 10 15

Lys Phe His Ser Ile Ile Phe His Val Ser Ser Gly Leu Lys Ser Phe
 20 25 30

Ala Asn Lys Met Phe Ile Gly Trp Ser Gln Leu Thr Met Tyr Tyr Trp
 35 40 45

Gln His Phe Leu Asp Gly Tyr Leu Leu Gly Pro Phe Ile Arg Lys Arg
 50 55 60

Glu Arg Met Gly Trp Phe Cys Met Gly Ser Cys Leu Gly Val Lys Ile
 65 70 75 80

Ala Glu Ser Val Ala Glu Asp Asn Asp Leu Pro Tyr Asn Ile Ser Phe
 85 90 95

Ile Pro Ile Leu Gly Leu Val Leu Arg Thr Leu Tyr Met Cys Leu Phe
 100 105 110

Thr Ser Gly Leu Pro Ala Ile Ala Phe Leu Pro Phe Phe Pro Ile Leu
 115 120 125

Arg Ile Lys Lys Lys Asn Tyr Arg Ala Ser Lys Gly Gly Arg Lys

130

135

140

Gln Lys Ser Asn Phe Ile Ile Pro Val

145

150'

<210> 71

<211> 2020

<212> DNA

<213> Homo sapiens

<400> 71

```

ggaggggtgt gtgtgtgtgt atttggttt ctgtcctttt ttaaaggatt ccaagccatg 60
tgaacttcc ctctggatg tgattctggg tcgcaagtcc ttatttatat gtgaggtctg 120
ggaatgggct ggggtattg gcagtccttt tgcagggcag tgtgtgtggt ggggtgacac 180
cgctgtggct tagcccaaga cactcccaga gaaaaacact gcagaaggaa ctggtttgca 240
gactgtggaa ggatctgcag ttttgttttt gacaaaaaaa ataataataa gttagctctg 300
aagggcagag ggaataccca agcccctgat gcctatgaga agtccttga cttcaaccct 360
cctgttgttt ggccttagcc cagagggagc tgcctacctg agcacccttg ggggtgggca 420
gagaggcagg gtgggatttt agagttagtg tctgtgcggg ggcagccctg agcctggagt 480
tgagactttg gggctcttta gtttgagggt gttgagtga tttgtgcccc tgcctgggtg 540
agagcttctt ggtacctctt gccacccctt ctcactgccc tgaccaacc cactggacc 600
ttgatctgct gaggagtgtg gtctctgacg actcagcact cccgcctgat gtattggatc 660
ataggagagc acttgctctc ctgcctctgc caggagaggg cttgttcttc caactctagg 720
aggccaggca agcatggaca ggagccaagg gagcaggggc attaatcttt tcttctttgc 780
aaagtgggca ctggcatca ggggtcccaat caccagaaaag caccaaagcc cctggcacc 840
caccactcc atctaccca gggaccccaa gtaggcaact gttatggcag tgggtccagc 900
ccaggccagc actggcagcc tctctctcct gcagtatga ccagctctac ctccccggc 960
aggcaatgtc ctggcttctc agcccagcac catctgttcc cctatacttc tcaggggcca 1020
gccagctctg ggcacccctt tgttctcttc atcctcggct cccacacagg tgacagacc 1080
agcagatagc ttctctctgg gaaagggttg atgtgcctt acatccctt ctagccctcc 1140
tcccatccac acacacagc acccaccac accaggtcgg cttgtttctc acatgtagg 1200
agagagggga gaccaacccc tttgtgtctt ttgaaatacg aagaaaaatg tgtgttcagg 1260
agcatgactc cagtgtcgc ctcttgggcc cagttcagtc tgtcttgtct caaatctagg 1320
catttttgct tcaattttat tttttttaag aatacaaaaa cagaaatctg cactaattta 1380
cctggtttct taggaaaact tttttttatt ttttacattt tttggtgtcc gtttgtattg 1440
aataatttgc tacatttgta aaatgtaaga ggtatataat atatgtatat ttctaacgta 1500
aaaaacataa tttttttctt ttcaagattt ttttcttaa aagatgagag aaacatattt 1560
tttcaggaaa acaaaacttt aaaaaaaaaa gaggagaaat aaaacctttt ctcccctttc 1620
cccatcctct atctatccct ctttcccagg acaaatcaa aaggtggatt atcttctgaa 1680
gaatggaaac tgtagtcca gaatgatgtg ttttctcaa tgcagtgagt gatagattct 1740
ctagttttct cctagggat ggggaagggg cattgaggca agcctggaga ggagcctggg 1800
gagcagggtc atgaactttt ttcttttagt aaggaggaat acaatcaagg gttttgtatt 1860
cagaatgttg tgcaatattt tggaatggga cattgtgtgt tttagagatt ttagtttaaa 1920
aacaaaacaa aaagattgat caaatctgta cagtttctat tgttccagat ttttttaagt 1980
ttgtattaaa agcacgatac ataataaaaa aaaaaaaaaa 2020

```

<210> 72

<211> 104

<212> PRT

<213> Homo sapiens

<400> 72

Met Ala Val Gly Pro Ala Gln Ala Ser Thr Gly Ser Leu Leu Ser Leu

1

5

10

15

Gln Tyr Ala Pro Ala Leu Pro Pro Pro Ala Gly Asn Val Leu Ala Ser

20

25

30

Gln Pro Ser Thr Ile Cys Ser Pro Ile Leu Leu Arg Gly Gln Pro Ser

35

40

45

Leu Gly His Pro Leu Phe Pro Ser Ser Ser Ala Pro Thr Gln Val Thr
50 55 60

Asp Pro Ala Asp Ser Phe Ser Leu Gly Lys Val Gly Cys Cys Leu Thr
65 70 75 80

Ser Pro Ser Ser Pro Pro Pro Ile His Thr His Arg His Pro Pro Thr
85 90 95

Pro Gly Arg Leu Val Ser His Met
100

<210> 73

<211> 760

<212> DNA

<213> Homo sapiens

<400> 73

cttaagtctt ggcgcgctcg cctcgcagcc tgcaaccgc gctcagctgc ccgcctcctc 60
agccagccat gctggagcat ctgagctcgc tgcccacgca gatggattac aagggccaga 120
agctagctga acagatgttt cagggaatta ttcttttttc tgcaatagtt ggatttatct 180
acgggtacgt ggctgaacag ttcgggtgga ctgtctatat agttatggcc ggatttgctt 240
tttcatgttt gctgacactt cctccatggc ccattctatcg ccggcatcct ctcaagtggg 300
tacctgttca agaatcaagc acagacgaca agaaaccagg ggaaagaaaa attaagaggc 360
atgctaaaaa taattgaggt ttcatgatt cagcacctgc ttttgtttct gtgagatgag 420
ctaaattgct ttcatacccc agataagagc taaaaccacc taatgctctt atggcacagc 480
tgtgtataga tttagtcttc ttatacttc atttctagcc cagttggggt ttgatttata 540
taagtagttt agaccttctc ttcataatct tgctctgaga tggggaacag aacacacaag 600
tatgaagttt ctttcaggtg taaataatga aaaataaatg cctcataaat gatagtacaa 660
tgtaactatc aaagttttat aattcattat gagttaacca ttttaagtgt tccaattaac 720
cctcatagtg caaaaaaaaa aaaaaaaaaa aaaaaaaaaa 760

<210> 74

<211> 102

<212> PRT

<213> Homo sapiens

<400> 74

Met Leu Glu His Leu Ser Ser Leu Pro Thr Gln Met Asp Tyr Lys Gly
1 5 10 15

Gln Lys Leu Ala Glu Gln Met Phe Gln Gly Ile Ile Leu Phe Ser Ala
20 25 30

Ile Val Gly Phe Ile Tyr Gly Tyr Val Ala Glu Gln Phe Gly Trp Thr
35 40 45

Val Tyr Ile Val Met Ala Gly Phe Ala Phe Ser Cys Leu Leu Thr Leu
50 55 60

Pro Pro Trp Pro Ile Tyr Arg Arg His Pro Leu Lys Trp Leu Pro Val
65 70 75 80

Gln Glu Ser Ser Thr Asp Asp Lys Lys Pro Gly Glu Arg Lys Ile Lys
85 90 95

Arg His Ala Lys Asn Asn

100

<210> 75
<211> 875
<212> DNA
<213> Homo sapiens

<400> 75
ctāgctcatg ctgctcttgt cagcctctgg ttctcctcga gtccttgggg acgtggcaga 60
tgccagcgac catcagacaa cgtggaggcc ctcatgggca atggctgagg gggccgggct 120
gaggctgtgc acatgcagtc tgcacgccac tcttgggctc tgctggcgga gatccccctc 180
cttctgggtg cagactgcac ctccggatgc agttttgatg tccatcttcc aggagagaga 240
cggctctcggg tccagggagt ggagggggct gcccttgccg tgcaggctcct ggccgatggc 300
gccttaccct gctgccttgg gcttttggcc tgaagcaaat tcctgagtgg ggggtactgg 360
ggcctgccgc atcctgtcct gtccaactgcc caccctcgctg tgctggctcc ctcaactctg 420
gctgcagtgg gagccgccag tctgaccctt gtcaccgcac gctctgcccc caccctgttg 480
caagaggtea caccatgtca gcagccttgc actgaccgca gccggcccc aggcctcaga 540
gttctggatg cttccgtgcg gctccaacag gcacgtctt cccttcgcga ggtggagggg 600
ccgcttcccg caggcatctg agctctgtgc cggggccgtg gccatgggaa gatgttccac 660
gctgcctcct cctcgagttt tcctcggaac cactcttgaa tgtctgagt agggctcctgc 720
ttagctcttt ggctgtgag atgctttgaa aatttttatt tttttaagat gaagcaagat 780
gtctgtagcg gtaattgcct cacattaaac tgcgcccgc tgcaggcgca gtgactgctg 840
aatgtaaaaa aaaaaaaaaa aaaaaaaaaa aaaaa 875

<210> 76
<211> 112
<212> PRT
<213> Homo sapiens

<400> 76
Met Leu Leu Leu Ser Ala Ser Gly Ser Pro Arg Val Leu Gly Asp Val
1 5 10 15
Ala Asp Ala Ser Asp His Gln Thr Thr Trp Arg Pro Ser Trp Ala Met
20 25 30
Ala Glu Gly Ala Gly Leu Arg Leu Cys Thr Cys Ser Leu His Ala Thr
35 40 45
Leu Gly Leu Cys Trp Arg Arg Ser Pro Ser Phe Trp Val Gln Thr Ala
50 55 60
Pro Pro Asp Ala Val Leu Met Ser Ile Phe Gln Glu Arg Asp Gly Leu
65 70 75 80
Gly Ser Arg Glu Trp Arg Gly Leu Pro Leu Pro Cys Arg Ser Trp Pro
85 90 95
Met Ala Pro Tyr Pro Ala Ala Leu Gly Phe Trp Pro Glu Ala Asn Ser
100 105 110

<210> 77
<211> 2848
<212> DNA
<213> Homo sapiens

<220>
<221> unsure

<222> (2526)

<400> 77

```
ctttgttctg tccttggtgt gtggtgcatt cgtgaaattc tgcagcacat cggcgaaaga 60
aaacgttctg tgacgtgatc ctcatgggcc aggaagaaa gatacctgct catcgtgttg 120
ttcttctgctg agccagtcac ttttttaact taatgttcac aactaacatg cttgaatcaa 180
agtcctttga agtagaactc aaagatgctg aacctgatat tattgaacaa ctggtggaat 240
ttgcttatac tgctagaatt tccgtgaata gcaacaatgt tcagtctttg ctggatgcag 300
caaaccaata tcagattgaa cctgtgaaga aaatgtgtgt tgattttttg aaagaacaag 360
ttgatgcttc aaattgtctt ggtataagtg tgctagcgga gtgtctagat tgtcctgaat 420
tgaaagcaac tgcagatgac tttattcatc agcactttac tgaagtttac aaaactgatg 480
aattttctca acttgatgtc aagcgagtaa cacatcttct caaccaggac actctgactg 540
tgagagcaga ggatcagggt tatgatgctg cagtcagggt gttgaaatac gatgaacct 600
atcgccagcc atttatggtt gatatccttg ctaaagtcag gtttctctct atatacaaga 660
atttcttaag taaaacggta caagctgaac cacttattca agacaatcct gaatgcctta 720
agatggtgat aagtggatg aggtaccatc tactgtctcc agaggaccga gaagaacttg 780
tagatggccc aagacctaga agaaagaaac atgactaccg catagcccta tttggaggct 840
ctcaaccaca gtcttgtaga ttttttaacc ccaaggatta tagctggaca gacatccgct 900
gcccctttga aaaaccaaga gatgcagcat gcgtgttttg ggacaatgta gtatacattt 960
tgaggaggctc tcagcttttc ccaataaagc gaatggactg ctataatgta gtgaaggata 1020
gctgggtatc gaaactgggt cctccgacac ctgcagacag ccttgetgca tgtgctgcag 1080
aaggcaaaat ttatacatct ggaggttcag aagtaggaaa ctacgtctg tatttatttg 1140
agtgtctatg tacgagaact gaaagctggc acacaaagcc cagcatgctg acccagcgt 1200
gcagccatgg gatggtggaa gccaatggcc taatctatgt ttgtggtgga agtttaggaa 1260
acaatgtttc tgggagagtg cttaattcct gtgaagttta tgatcctgcc acagaacat 1320
ggactgagct gtgtccaatg attgaagcca ggaagaatca tgggctggtt tttgtaaaag 1380
acaagatatt tgctgtgggt ggtcagaatg gtttaggtgg tctggacaat gtggaatatt 1440
acgatattaa gttgaacgaa tggagatgg tctaccaat gccatggaag ggtgtaacag 1500
tgaaatgtgc agcagttggc tctatagttt atgtcttggc tggttttcaa ggtgttggtc 1560
gattaggaca cattctccaa tataataaccg aaacagacaa atgggttggc aactcccaag 1620
ttcgtgcttt tccagtcaca aagttgttta atttgtgttg tgcatacttg tggagcaaat 1680
gaagagaccc ttgaaacatg aaaaatgagt ggacttcaga ctcatcagag actctaaaat 1740
atagccacca gtgctttgtt ccaggagttt ggtgacaaag ttttggtttg gtgttttgg 1800
aaagaaagtt tcaagtgaag tgaggttctt ataaaataga tgtttctttt atatggattt 1860
ccttaattca agcatcatat tttagctggc cacaaaacca agaacatatt tagcaagaaa 1920
acttgaaaaa gtataagcat ttgttaaaaa tgtgaatttc ttgaatgaat ttcacatttg 1980
taactatgat tttggcagaa tagaagattg gctcatcagt gaagcgcagt atcttagctc 2040
tagattctat tttcatgcat cacagaagtg ctatacgggt aggtctgttt gtgctcagtc 2100
aagaactaag aaatagtagt aattgtaagt caagatgggc aactcagatg gagcagctta 2160
gtctcacagt ttgcttgtct atttatttta tttagtcca aatgtattcc attttaaaag 2220
taagccagag tgagtcaagg catatacaca ctttctcaca aaacttcta aacagatttg 2280
gggttttaat atgtccaact cctcatgaaa tatattcaat ccacttaaat atattccatc 2340
tttttaacat aaaaatgtaa gcttagcacc catcattaat ttatgtctct gttttatcca 2400
gtggttaaaa aaggattctg cctctttagt cctcctgtt aaataaaacc caatcatagt 2460
aggtgattac ctagcaaaaa gtaaaagctat ttatagcaaa tttttagatc attagaaaag 2520
cgggnggtt gaacaataac agtggtgact ttgaacttct ttaacgagat catgaattct 2580
tttcccttag ccaaaacatg aaatatttaa ctagttgtc tctaaaagtt ttgtaatcat 2640
gagtttagata tatgtcatct cctattcatt gcttttatgt gatcaataaa tcttttaca 2700
acccaactac tcatttctct cctagtaata ctttgccttt ttcactgtgt atggaatgaa 2760
acatgtaaag ctgtcacaa caatgttttt atctgataat attaaatatt ttttaacttc 2820
aaaaaaaaa aaaaaaaaaa aaaaaaaa 2848
```

<210> 78

<211> 532

<212> PRT

<213> Homo sapiens

<400> 78

Met Val Gln Glu Arg Lys Ile Pro Ala His Arg Val Val Leu Ala Ala

1

5

10

15

Ala Ser His Phe Phe Asn Leu Met Phe Thr Thr Asn Met Leu Glu Ser
 20 25 30
 Lys Ser Phe Glu Val Glu Leu Lys Asp Ala Glu Pro Asp Ile Ile Glu
 35 40 45
 Gln Leu Val Glu Phe Ala Tyr Thr Ala Arg Ile Ser Val Asn Ser Asn
 50 55 60
 Asn Val Gln Ser Leu Leu Asp Ala Ala Asn Gln Tyr Gln Ile Glu Pro
 65 70 75 80
 Val Lys Lys Met Cys Val Asp Phe Leu Lys Glu Gln Val Asp Ala Ser
 85 90 95
 Asn Cys Leu Gly Ile Ser Val Leu Ala Glu Cys Leu Asp Cys Pro Glu
 100 105 110
 Leu Lys Ala Thr Ala Asp Asp Phe Ile His Gln His Phe Thr Glu Val
 115 120 125
 Tyr Lys Thr Asp Glu Phe Leu Gln Leu Asp Val Lys Arg Val Thr His
 130 135 140
 Leu Leu Asn Gln Asp Thr Leu Thr Val Arg Ala Glu Asp Gln Val Tyr
 145 150 155 160
 Asp Ala Ala Val Arg Trp Leu Lys Tyr Asp Glu Pro Asn Arg Gln Pro
 165 170 175
 Phe Met Val Asp Ile Leu Ala Lys Val Arg Phe Pro Leu Ile Ser Lys
 180 185 190
 Asn Phe Leu Ser Lys Thr Val Gln Ala Glu Pro Leu Ile Gln Asp Asn
 195 200 205
 Pro Glu Cys Leu Lys Met Val Ile Ser Gly Met Arg Tyr His Leu Leu
 210 215 220
 Ser Pro Glu Asp Arg Glu Glu Leu Val Asp Gly Pro Arg Pro Arg Arg
 225 230 235 240
 Lys Lys His Asp Tyr Arg Ile Ala Leu Phe Gly Gly Ser Gln Pro Gln
 245 250 255
 Ser Cys Arg Tyr Phe Asn Pro Lys Asp Tyr Ser Trp Thr Asp Ile Arg
 260 265 270
 Cys Pro Phe Glu Lys Pro Arg Asp Ala Ala Cys Val Phe Trp Asp Asn
 275 280 285
 Val Val Tyr Ile Leu Gly Gly Ser Gln Leu Phe Pro Ile Lys Arg Met
 290 295 300
 Asp Cys Tyr Asn Val Val Lys Asp Ser Trp Tyr Ser Lys Leu Gly Pro
 305 310 315 320
 Pro Thr Pro Arg Asp Ser Leu Ala Ala Cys Ala Ala Glu Gly Lys Ile
 325 330 335

Tyr Thr Ser Gly Gly Ser Glu Val Gly Asn Ser Ala Leu Tyr Leu Phe
 340 345 350
 Glu Cys Tyr Asp Thr Arg Thr Glu Ser Trp His Thr Lys Pro Ser Met
 355 360 365
 Leu Thr Gln Arg Cys Ser His Gly Met Val Glu Ala Asn Gly Leu Ile
 370 375 380
 Tyr Val Cys Gly Gly Ser Leu Gly Asn Asn Val Ser Gly Arg Val Leu
 385 390 395 400
 Asn Ser Cys Glu Val Tyr Asp Pro Ala Thr Glu Thr Trp Thr Glu Leu
 405 410 415
 Cys Pro Met Ile Glu Ala Arg Lys Asn His Gly Leu Val Phe Val Lys
 420 425 430
 Asp Lys Ile Phe Ala Val Gly Gly Gln Asn Gly Leu Gly Gly Leu Asp
 435 440 445
 Asn Val Glu Tyr Tyr Asp Ile Lys Leu Asn Glu Trp Lys Met Val Ser
 450 455 460
 Pro Met Pro Trp Lys Gly Val Thr Val Lys Cys Ala Ala Val Gly Ser
 465 470 475 480
 Ile Val Tyr Val Leu Ala Gly Phe Gln Gly Val Gly Arg Leu Gly His
 485 490 495
 Ile Leu Gln Tyr Asn Thr Glu Thr Asp Lys Trp Val Ala Asn Ser Gln
 500 505 510
 Val Arg Ala Phe Pro Val Thr Lys Leu Phe Asn Leu Cys Cys Arg Tyr
 515 520 525
 Leu Trp Ser Lys
 530

<210> 79
 <211> 2232
 <212> DNA
 <213> Homo sapiens

<220>
 <221> unsure
 <222> (2168)

<400> 79
 gttcttcatg cccttctaga gaacgttcta cagctcttct tcacctgcat cctccttgga 60
 agtctccagc catgtcgaga tattatttag agttgtttca gtgtccaact tgtatgaaag 120
 gagcatgggc ttttagtagaa gtccttatca ggtcttgccct tttcaatgaa agcttttgtc 180
 atcaaatctc agaaaatatt ggtcccaagg tgctccacct gacgtactc aaatttttct 240
 ttaatttaat tgaaagtga gtaacaacatc tgagtcaaaa gttgtatgac tggtcagatt 300
 ctcagaatct gaaaataaca ggaaaggcaa tgcttcttga aattttttgg tcaggaagtg 360
 aaacctctgg gcttttgacc aaaccagtaa atatgctttt ggaatggact atatattctc 420
 acaaggaaaa attcaagtct aatgatactt ttcttcaca ggaattagag attttcattt 480
 gctccttttc ctctctctgg cttcaaatgt ttgttgaga ggcagtcttt aaaaagttgt 540

gtctacagag ctctggcagt gtttcttctg agccactctc tcttcagaaa atggtatatt 600
cctatattacc agccttgggg aaaactgggtg tgcttgggtc tggaaagatt cagggtgtcaa 660
agaaaaatagg acagcggcct tgttttgact ctcagagAAC cttactaatg ctgaatggta 720
ctaaacaaaa acaagtcgaa gggctgccag agttactaga cctgaacctt gctaaatgtt 780
cctcatcatt aaaaaaattg aaaaagaagt cagaaggaga attgtcatgt tccaaggaga 840
attgccccctc tgtagttaa aagatgaatt ttcacaagac taatctaaaa ggagaaacag 900
ccctgcatag agcttgcata aataaccaag tggagaaatt gattcttctt ctctctttgc 960
caggaataga catcaatgtt aaagacaatg ctggctggac gcctttgcat gaagcctgta 1020
actatggcaa cacagtgggt gtccaggaaa ttttgcaacg ttgtccagag gtagatctgc 1080
tcaactcaagt ggacggggtg actcctttgc atgatgcact gtcaaacgga catgtagaaa 1140
ttggcaagct gctactacag catgggggcc cagtgtcttt acaacagagg aatgctaagg 1200
gagaattgcc cttggattat gtggtttcac ctcaaatcaa agaagaactg tttgctatta 1260
caaaaaataga agatacagtg gagaactttc atgcacaagc agagaaacat tttcattacc 1320
agcaacttga atttggctcc tttttactta gtaggatgtt gctaaatttt tgttcaattt 1380
ttgatttacc ttcagagttc attttagctt ccaaagggtt aactcatcta aatgaactgc 1440
ttatggcttg taaaagtcac aaagaaacca ccagtgttca tactgactgg ttactggatc 1500
tttatgctgg aaatataaag acattgcaga aactcccaca cattcttaag gaactgcctg 1560
agaatttgaa agtgtgtcct ggggtacaca ctgaggcctt gatgataaca ttggaaatga 1620
tgtgtcggtc agtcatggag ttttcatgat gatgctagaa agtatggatt gactttctaa 1680
atctgttcag tttgcattgg tacttactgt ggacttcata gcttactgac agatagtaat 1740
ttgatttatt tattgacaga ctttgcagcc ttgctaaatt ttaaaagcat ttttaaaaaa 1800
actttacaaa aactctagta tgggcttctg actttttcca ggggttagaa tttgactcaa 1860
aagtaaaaaa aattttgttt tagtatattc tactttcatt aatgtttttt tgttctgaaa 1920
gtgatattat attgtacatg taaaattaat ttaaatattt tttcaataa aaatgtaatg 1980
tctgtattc tagatgttct aggtcttaga atcatggcaa gcatattcat acaaatgcgt 2040
acctataaac tttagctcc tgactcttag ggatggattt tgaggaaaaa acaagactaa 2100
acaaaaacat gtagctccct atttcttctc tctaggttgt tggactgaaa tatgcatttt 2160
agctttgntg tttctaaaaa aaacatttct aaaatttaca ggaaaaaaa aaaaaaaaaa 2220
aaaaaaaaaa aa 2232

<210> 80

<211> 525

<212> PRT

<213> Homo sapiens

<400> 80

Met Ser Arg Tyr Tyr Leu Glu Leu Phe Gln Cys Pro Thr Cys Met Lys
1 5 10 15

Gly Ala Trp Ser Leu Val Glu Val Leu Ile Arg Ser Cys Leu Phe Asn
20 25 30

Glu Ser Phe Cys His Gln Ile Ser Glu Asn Ile Gly Ser Lys Val Leu
35 40 45

His Leu Thr Leu Leu Lys Phe Phe Phe Asn Leu Ile Glu Ser Glu Val
50 55 60

Gln His Leu Ser Gln Lys Leu Tyr Asp Trp Ser Asp Ser Gln Asn Leu
65 70 75 80

Lys Ile Thr Gly Lys Ala Met Leu Leu Glu Ile Phe Trp Ser Gly Ser
85 90 95

Glu Thr Ser Gly Leu Leu Thr Lys Pro Val Asn Met Leu Leu Glu Trp
100 105 110

Thr Ile Tyr Ser His Lys Glu Lys Phe Lys Ser Asn Asp Thr Phe Leu
115 120 125

Pro Gln Glu Leu Glu Ile Phe Ile Cys Ser Phe Ser Ser Ser Trp Leu
 130. 135 140
 Gln Met Phe Val Ala Glu' Ala Val Phe Lys Lys Leu Cys Leu Gln Ser
 145 150 155 160
 Ser Gly Ser Val Ser Ser Glu Pro Leu Ser Leu Gln Lys Met Val Tyr
 165 170 175
 Ser Tyr Leu Pro Ala Leu Gly Lys Thr Gly Val Leu Gly Ser Gly Lys
 180 185 190
 Ile Gln Val Ser Lys Lys Ile Gly Gln Arg Pro Cys Phe Asp Ser Gln
 195 200 205
 Arg Thr Leu Leu Met Leu Asn Gly Thr Lys Gln Lys Gln Val Glu Gly
 210 215 220
 Leu Pro Glu Leu Leu Asp Leu Asn Leu Ala Lys Cys Ser Ser Ser Leu
 225 230 235 240
 Lys Lys Leu Lys Lys Lys Ser Glu Gly Glu Leu Ser Cys Ser Lys Glu
 245 250 255
 Asn Cys Pro Ser Val Val Lys Lys Met Asn Phe His Lys Thr Asn Leu
 260 265 270
 Lys Gly Glu Thr Ala Leu His Arg Ala Cys Ile Asn Asn Gln Val Glu
 275 280 285
 Lys Leu Ile Leu Leu Leu Ser Leu Pro Gly Ile Asp Ile Asn Val Lys
 290 295 300
 Asp Asn Ala Gly Trp Thr Pro Leu His Glu Ala Cys Asn Tyr Gly Asn
 305 310 315 320
 Thr Val Gly Val Gln Glu Ile Leu Gln Arg Cys Pro Glu Val Asp Leu
 325 330 335
 Leu Thr Gln Val Asp Gly Val Thr Pro Leu His Asp Ala Leu Ser Asn
 340 345 350
 Gly His Val Glu Ile Gly Lys Leu Leu Leu Gln His Gly Gly Pro Val
 355 360 365
 Leu Leu Gln Gln Arg Asn Ala Lys Gly Glu Leu Pro Leu Asp Tyr Val
 370 375 380
 Val Ser Pro Gln Ile Lys Glu Glu Leu Phe Ala Ile Thr Lys Ile Glu
 385 390 395 400
 Asp Thr Val Glu Asn Phe His Ala Gln Ala Glu Lys His Phe His Tyr
 405 410 415
 Gln Gln Leu Glu Phe Gly Ser Phe Leu Leu Ser Arg Met Leu Leu Asn
 420 425 430
 Phe Cys Ser Ile Phe Asp Leu Ser Ser Glu Phe Ile Leu Ala Ser Lys
 435 440 445

Gly Leu Thr His Leu Asn Glu Leu Leu Met Ala Cys Lys Ser His Lys
 450 455 460

Glu Thr Thr Ser Val His Thr Asp Trp Leu Leu Asp Leu Tyr Ala Gly
 465 470 475 480

Asn Ile Lys Thr Leu Gln Lys Leu Pro His Ile Leu Lys Glu Leu Pro
 485 490 495

Glu Asn Leu Lys Val Cys Pro Gly Val His Thr Glu Ala Leu Met Ile
 500 505 510

Thr Leu Glu Met Met Cys Arg Ser Val Met Glu Phe Ser
 515 520 525

<210> 81
 <211> 2625
 <212> DNA
 <213> Homo sapiens

<220>
 <221> unsure
 <222> (2559)

<220>
 <221> unsure
 <222> (2561)

<400> 81
 gtctcctagc accgcacatctg tccaggaagc cactgcctgc ttgttgctca tctgtagttt 60
 gcaggtgggg gttgcttttc ctttgttctg ccaggcggct tcagggtcc ctgtctgtag 120
 gtcagtatat ttcaccagtt ctgaaaaccc caacctactc cttgacagcc attgtttcct 180
 ctgcctctgg gacatccatc aaatgtacgt tagccctcat tccatcttcc gcgtccctta 240
 ttctgtcttc tgccttccca cgttattctc tgtaataatt tatctgaaat ttttttatct 300
 tctattcac tgggtaagtt cttaatcttc ctatttactg tttctctctt ctactgtatc 360
 tagactggca ccaaatatgt ccactgagta cattagtgtt tcatttctaa aagagctgtt 420
 tggttttctt tcaaatgtgc tgtatctgtt tttagaattt tcagttcccg tcatattcag 480
 agtttgttgt tcatctctgc aaacgctgag cgtagctgcc tcacggtgcg tctgcggtgc 540
 catctgagtg ttcttggcag cactgccagg tctccctggg agctgcgctc tttgacctcg 600
 tgacgtcctg aggctgggc cagatgctgc ttctccagg gaagatttgt tctccctccc 660
 agtagctccc caggacctc ccacaccact gccctgggcc ctgtgtgtat aggccagat 720
 ttttctctgt gtcttttatt accagctctg tttacagatc cctggagtca ggggaagggg 780
 tgagctcaga tctgaggcca agaggccatt tcccagctgg ctgcagctga gcctggtggc 840
 tgtgtctgag cgtcgtggag ccagggtcca cggcaccag gtggcggggg gcaggcgccc 900
 tgaccagcca cggcctcaaa gtgactctcc tgcctctgctc cagccacacc tgcagctgt 960
 ggcgggcgct ggcggtggag cctgccttag ctgcccaggc cctggggctg ctgctggaga 1020
 agatgagtag ggacgtccct ttcaaggaga gccgggcctt cctgctgggc cgcaccccag 1080
 accgcgtggc cagctgctg cctctctcgg ctacctgtgc actgtttgag gtcagtgtca 1140
 cgctgcagc ggggcccgcg gtgctcgagc tctaccccca gctgtttgtg gtgcttctgc 1200
 tgcgcgtcag ctgcaccgtg ggtgtccagc tgcccggaa cctgcaggcc caggaaagga 1260
 ggggtgccag tccagcccta gccaccagga acctggaacc ctgcagctct gcagtggaca 1320
 ccctgcggtc catgctactc cgcagcggca gcgaggtatg ggtacagcgc atggacctgg 1380
 agggaggctg ggaactgtc aggacctcg cggggcatga ggagggggcc accaggttgg 1440
 ccaggggcat ggtgagcac gcaggggccc gactccccct ggtgctgaag acgctggcat 1500
 gcacacacag cagtgcgtat gagaaccaga gggtagccac caccgccttc ctggccgagc 1560
 tgctgaacag caacgtggcc aacgacctca tgcctctgga ctgctgctg gagagcctgg 1620
 cggtcgcaca gaaggacaca tgcgccagcg tgcggaggct ggtgctccgc ggcctggcca 1680
 acctggcctc cggtgcctc gacaagggtg gaaccacagg cccccagctc ctacagcca 1740
 tgattggcgg gctggacgac ggggacaacc ctacagccc agtggccctg gaggccatgc 1800

tgggccttgc gaggctggtg cacctggtgg agtcctggga cctgcgctca gggctgctgc 1860
 acgtggccat cgcgcatcgg cctttcttcg acagtggagaa gatggagttc cggacggcat 1920
 ctatccgcct ctttgggcac ctttaacaagg tctgccacgg agactgtgag gacgtcttcc 1980
 tggaccaggt ggtgggcggg ctggcgcccc tgctgctgca cctgcaggac cctcaggcca 2040
 ccgtggccag cgcctgcagg tttgccctgc gcatgtgtgg ccccaatctg gcatgtgagg 2100
 agctctcagc tgctttccag aaacaçctgc aggaggggccg agccctgcac ttcggggagt 2160
 tcctcaacac cacctgcaag cacctgatgc accatttccc agacctgtg ggccgtctcc 2220
 tgaccacctg cctgtttctac ttcaagagca gctgggagaa cgtccgagct gctgcacccc 2280
 tgttcaccgg taagcaccac cccctgcccc acccccacgc cgcccggcag ccccgctga 2340
 tgccccact tcacagggtt cctggtgctg cactcggagc ccaggcagca gccgcagggtg 2400
 gacctggacc agctcattgc gggtgagcac ccctccacgg ggccctcccg ctgggcccctg 2460
 ctgacctgt aggcaccgc agggactaag tgattttcct ggatttcagg actttttccc 2520
 tgtcactggt gacctatcg tctctagtaa ttacaggana nttcttaact gttccaaaag 2580
 agcttaaaaa acacaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaa 2625

<210> 82

<211> 490

<212> PRT

<213> Homo sapiens

<400> 82

Met Leu Trp Arg Ala Leu Ala Val Glu Pro Arg Leu Ala Ala Gln Val
 1 5 10 15

Leu Gly Leu Leu Leu Glu Lys Met Ser Arg Asp Val Pro Phe Lys Glu
 20 25 30

Ser Arg Ala Phe Leu Leu Gly Arg Thr Pro Asp Arg Val Ala Thr Leu
 35 40 45

Leu Pro Leu Ser Ala Thr Cys Ala Leu Phe Glu Val Met Ser Thr Pro
 50 55 60

Ala Ala Gly Pro Ala Val Leu Glu Leu Tyr Pro Gln Leu Phe Val Val
 65 70 75 80

Leu Leu Leu Arg Val Ser Cys Thr Val Gly Val Gln Leu Pro Arg Asn
 85 90 95

Leu Gln Ala Gln Glu Arg Arg Gly Ala Ser Pro Ala Leu Ala Thr Arg
 100 105 110

Asn Leu Glu Pro Cys Ser Ser Ala Val Asp Thr Leu Arg Ser Met Leu
 115 120 125

Leu Arg Ser Gly Ser Glu Asp Val Val Gln Arg Met Asp Leu Glu Gly
 130 135 140

Gly Trp Glu Leu Leu Arg Thr Ser Ala Gly His Glu Glu Gly Ala Thr
 145 150 155 160

Arg Leu Ala Arg Ala Met Ala Glu His Ala Gly Pro Arg Leu Pro Leu
 165 170 175

Val Leu Lys Thr Leu Ala Cys Thr His Ser Ser Ala Tyr Glu Asn Gln
 180 185 190

Arg Val Thr Thr Thr Ala Phe Leu Ala Glu Leu Leu Asn Ser Asn Val
 195 200 205

Ala Asn Asp Leu Met Leu Leu Asp Ser Leu Leu Glu Ser Leu Ala Ala
 210 215 220
 Arg Gln Lys Asp Thr Cys⁴ Ala Ser Val Arg Arg Leu Val Leu Arg Gly
 225 230 235 240
 Leu Ala Asn Leu Ala Ser Gly Cys Pro Asp Lys Val Arg Thr His Gly
 245 250 255
 Pro Gln Leu Leu Thr Ala Met Ile Gly Gly Leu Asp Asp Gly Asp Asn
 260 265 270
 Pro His Ser Pro Val Ala Leu Glu Ala Met Leu Gly Leu Ala Arg Leu
 275 280 285
 Val His Leu Val Glu Ser Trp Asp Leu Arg Ser Gly Leu Leu His Val
 290 295 300
 Ala Ile Arg Ile Arg Pro Phe Phe Asp Ser Glu Lys Met Glu Phe Arg
 305 310 315 320
 Thr Ala Ser Ile Arg Leu Phe Gly His Leu Asn Lys Val Cys His Gly
 325 330 335
 Asp Cys Glu Asp Val Phe Leu Asp Gln Val Val Gly Gly Leu Ala Pro
 340 345 350
 Leu Leu Leu His Leu Gln Asp Pro Gln Ala Thr Val Ala Ser Ala Cys
 355 360 365
 Arg Phe Ala Leu Arg Met Cys Gly Pro Asn Leu Ala Cys Glu Glu Leu
 370 375 380
 Ser Ala Ala Phe Gln Lys His Leu Gln Glu Gly Arg Ala Leu His Phe
 385 390 395 400
 Gly Glu Phe Leu Asn Thr Thr Cys Lys His Leu Met His His Phe Pro
 405 410 415
 Asp Leu Leu Gly Arg Leu Leu Thr Thr Cys Leu Phe Tyr Phe Lys Ser
 420 425 430
 Ser Trp Glu Asn Val Arg Ala Ala Ala Pro Leu Phe Thr Gly Lys His
 435 440 445
 His Pro Leu Pro His Pro His Ala Ala Arg Gln Pro Arg Leu Met Pro
 450 455 460
 Pro Leu His Arg Val Pro Gly Ala Ala Leu Gly Ala Gln Ala Ala Ala
 465 470 475 480
 Ala Gly Gly Pro Gly Pro Ala His Cys Gly
 485 490

<210> 83

<211> 1476

<212> DNA

<213> Homo sapiens

<400> 83
cctctctcca aattggcctc tcaactcaca ggaagacaca gctgcccaga gcagcccagg 60
ccgtggtgag gaggcggagg catcggcggc ggaggctcag ggtggggagc aggcctacct 120
ggcaggcctg gcagggcagt abcacttgga gcggtaccgc gacagttacg agtccatgtc 180
cgagccgccc attgtctatc ttttgcgccc cgtgcttccc cgggccttcg ccttccccgt 240
ggacccccag gtccagtctg ccgctgatga gactgctgtg cagctgagcg agttgctgac 300
gctgcccgtg ctcatgaagc gctccatcac ggcaccgctg gccgcccaca tctccttggt 360
gaacaaggcc gctgtcgact acttcttcgt ggagctgcac ctggaggcgc actatgaggc 420
actgcggcac ttctgtcga tggaggacgg cgagttcgcc cagtccctca gcgacctgct 480
ctttgagaag ctggagctg ggcaaacgcc ccggagagct gctcaaccgc ctggtgctga 540
actctgtgct gacaaggccc tgcagtgcag cctgcatggg gacacccgc acgcctccaa 600
cctctccctc gctctcaagt acctgcccga ggtgtttgcc cccaacgcc cggtatgtgt 660
gagctgctg gagctcaggt acaagggtga ctggcctctc aacattgtca tcaccgaggg 720
ctgcctgagc aagtacagcg gcgtcttctc cttcctgctg cagctgaagc tcatgatgtg 780
ggcgctcaag gacgtctgct tccacctcaa gcgcacagcc ctgctgagcc acatggccgg 840
ctctgtgcag ttccgtcagc tgcagctgtt caagcacgag atgcagcatt tcgtgaaggt 900
catccagggc tacatcgcca accagatcct gcacgtcacc tgggtcgcagt tcagggccag 960
gttggccacc gtgggcgacc tggaggagat ccagcgtgcg cacgcagagt acctgcacaa 1020
ggccgtcttc aggggctgc tcacggagaa ggcggcgccc gtcatgaacg tcatccacag 1080
catcttcagc ctctgtctca agttccgcag ccagctcatc tcccaggcct gggggccccc 1140
tgggggcccg cggggtgcag agcaccceaa ctttgcactc atgcagcagt cctacaacac 1200
cttcaagtac tactccact ttctcttcaa agtggtgacc aagctggtga accgcggcta 1260
ccagcccccac ctggaggact ttctgctgcg catcaacttc aacaactact accaggacgc 1320
ctgaggctgc tctgcggggg acgtgcacaa taaagggtgt ctcgggaaaa aaaaaaaaaa 1380
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1440
aaaaataaaa aaaaaaaaaa aaaaaaaaaa aaaaaa 1476

<210> 84
<211> 382
<212> PRT
<213> Homo sapiens

<400> 84
Met Ser Glu Pro Pro Ile Ala His Leu Leu Arg Pro Val Leu Pro Arg
1 5 10 15
Ala Phe Ala Phe Pro Val Asp Pro Gln Val Gln Ser Ala Ala Asp Glu
20 25 30
Thr Ala Val Gln Leu Ser Glu Leu Leu Thr Leu Pro Val Leu Met Lys
35 40 45
Arg Ser Ile Thr Ala Pro Leu Ala Ala His Ile Ser Leu Val Asn Lys
50 55 60
Ala Ala Val Asp Tyr Phe Phe Val Glu Leu His Leu Glu Ala His Tyr
65 70 75 80
Glu Ala Leu Arg His Phe Leu Leu Met Glu Asp Gly Glu Phe Ala Gln
85 90 95
Ser Leu Ser Asp Leu Leu Phe Glu Lys Leu Gly Ala Gly Gln Thr Pro
100 105 110
Arg Arg Ala Ala Gln Pro Ala Gly Ala Glu Leu Cys Ala Asp Lys Ala
115 120 125
Leu Gln Cys Ser Leu His Gly Asp Thr Pro His Ala Ser Asn Leu Ser
130 135 140

Leu Ala Leu Lys Tyr Leu Pro Glu Val Phe Ala Pro Asn Ala Pro Asp
 145 150 155 160
 Val Leu Ser Cys Leu Glu Leu Arg Tyr Lys Val Asp Trp Pro Leu Asn
 165 170 175
 Ile Val Ile Thr Glu Gly Cys Leu Ser Lys Tyr Ser Gly Val Phe Ser
 180 185 190
 Phe Leu Leu Gln Leu Lys Leu Met Met Trp Ala Leu Lys Asp Val Cys
 195 200 205
 Phe His Leu Lys Arg Thr Ala Leu Leu Ser His Met Ala Gly Ser Val
 210 215 220
 Gln Phe Arg Gln Leu Gln Leu Phe Lys His Glu Met Gln His Phe Val
 225 230 235 240
 Lys Val Ile Gln Gly Tyr Ile Ala Asn Gln Ile Leu His Val Thr Trp
 245 250 255
 Cys Glu Phe Arg Ala Arg Leu Ala Thr Val Gly Asp Leu Glu Glu Ile
 260 265 270
 Gln Arg Ala His Ala Glu Tyr Leu His Lys Ala Val Phe Arg Gly Leu
 275 280 285
 Leu Thr Glu Lys Ala Ala Pro Val Met Asn Val Ile His Ser Ile Phe
 290 295 300
 Ser Leu Val Leu Lys Phe Arg Ser Gln Leu Ile Ser Gln Ala Trp Gly
 305 310 315 320
 Pro Pro Gly Gly Pro Arg Gly Ala Glu His Pro Asn Phe Ala Leu Met
 325 330 335
 Gln Gln Ser Tyr Asn Thr Phe Lys Tyr Tyr Ser His Phe Leu Phe Lys
 340 345 350
 Val Val Thr Lys Leu Val Asn Arg Gly Tyr Gln Pro His Leu Glu Asp
 355 360 365
 Phe Leu Leu Arg Ile Asn Phe Asn Asn Tyr Tyr Gln Asp Ala
 370 375 380

<210> 85
 <211> 1212
 <212> DNA
 <213> Homo sapiens

<220>
 <221> unsure
 <222> (1146)..(1147)

<400> 85
 taggctctttt ggccgcccag ctctccctgt gctaactgcc tgcaccttgg acagagcggg 60
 tgcgcaaata agaaggatta gttgggacct gccttggcga ccccatggca tccccagaa 120
 ccgtaactat tgtggccctc tcagtggccc tgggactctt ctttgttttc atggggacta 180
 tcaagctgac cccaggtc agcaaggatg cctacagtga gatgaaacgt gcttacaaga 240

gctatgttcg agccctccct ctgctgaaga aaatggggat caattccatt ctctccgaa 300
aaagcattgg tgcccttgaa gtggcctgtg gcatcgatc gacccttggt cctgggcgtc 360
ccaaagatgt ggccaacttc ttctactgt tgctggtgtt ggctgtgctc ttctccacc 420
agctggtcgg tgatcccttc ahacgctacg cccatgctct ggtgtttgga atcctgctca 480
cttgccgcct gctgattgct cgcaagcccg aagaccggtc ttctgagaag aagcctttgc 540
caggggaatgc tgaggagcaa ccttccttat atgagaaggc cctcagggc aaagtgaagg 600
tgtcatagaa aagtggaggt gcaaagagt gaccttcag gcagttgct ccatgacacc 660
aggaagatgt cagtgtgtgt ttttcatttg atttatttat cttggggaaa gtgaaaaatg 720
taatctgcaa gttaatgac tattggcttg tgtacatcta tatgctaaaa tgacttcccc 780
acattgacat ttgtgcgcca cctttaatca ctctggggca actctcacat cttgctgcat 840
gtacatgtat acggctacta ttgaagtgt attgtgagat ggactccaac aagcatgtga 900
ctgtgagatt gtgtgtggga aaatgtattt aactactctg tgtgtgtgtg tgtgtgtgtg 960
tgcgcgcgcg cgacgcgca cacactcacg cacacacaag cagagaaggc gctgatcttg 1020
aactaatcct gcacaggcat ccttccttt atagattgat tccagcaaag gcggaataaa 1080
acaaatttcc tatgaagaga atcctgatat gaaacaagtc atgtagtctc atggccggga 1140
atctcnnac agataactaa aacttaaact tactacttta ggaaaaaaaa aaaaaaaaaa 1200
aaaaaaaaaa aa 1212

<210> 86

<211> 167

<212> PRT

<213> Homo sapiens

<400> 86

Met Ala Ser Pro Arg Thr Val Thr Ile Val Ala Leu Ser Val Ala Leu
1 5 10 15

Gly Leu Phe Phe Val Phe Met Gly Thr Ile Lys Leu Thr Pro Arg Leu
20 25 30

Ser Lys Asp Ala Tyr Ser Glu Met Lys Arg Ala Tyr Lys Ser Tyr Val
35 40 45

Arg Ala Leu Pro Leu Leu Lys Lys Met Gly Ile Asn Ser Ile Leu Leu
50 55 60

Arg Lys Ser Ile Gly Ala Leu Glu Val Ala Cys Gly Ile Val Met Thr
65 70 75 80

Leu Val Pro Gly Arg Pro Lys Asp Val Ala Asn Phe Phe Leu Leu Leu
85 90 95

Leu Val Leu Ala Val Leu Phe Phe His Gln Leu Val Gly Asp Pro Leu
100 105 110

Lys Arg Tyr Ala His Ala Leu Val Phe Gly Ile Leu Leu Thr Cys Arg
115 120 125

Leu Leu Ile Ala Arg Lys Pro Glu Asp Arg Ser Ser Glu Lys Lys Pro
130 135 140

Leu Pro Gly Asn Ala Glu Glu Gln Pro Ser Leu Tyr Glu Lys Ala Pro
145 150 155 160

Gln Gly Lys Val Lys Val Ser
165

<210> 87

<211> 1059

<212> DNA
 <213> Homo sapiens

<400> 87

```

tcaggattta aacttgtaa ctttggatgt gattatcatc aataccgaga taaattttcc 60
aaacacctga ctctgtgtgt ttttaccac catabaggaa gtttgtgtgt atgttacagc 120
ccgaagtgtg cctcttgga acaaatcaca tattcagtgt tttacattca taaaggacac 180
agcaagacct tcaccacttc tcttgagaat gttggctcac acatgacaaa gggcattact 240
tttctcaacc ttgactatta tgtggctgtt tacttacctg gtcatttctt ccacctactt 300
aatgttcaac atccagacct gatctgccac aatctctttc tgacaggaaa taatgaaatg 360
attgatatgc tacctcattg cctttacag tcattgtcag ggtccctggt attggattgt 420
tgttctgaa agctctatag agcactgctc agccagtcgt ctttattaca gcttctgcag 480
aacacttgct tagactgtga gaagatggct gcgttgcaact gtgcgctcta ctgcggtcaa 540
gggtgcgagt tcctggaagc ccagattatt cagtggattt ctgagaatgt ctctgcctgc 600
cattcatttg acctcattca ggaatttata attgcttctt catactggag tgtatattca 660
gagacaagta acatggacaa actattgcca cattcctcag tgctcacttg gaatacagaa 720
attcctggaa taactcttgt gacagaagac attgcattgc ctcttatgaa ggttttgaaa 780
aatgtcctgg gcagtaaata aatttagcag gaaagtacgc ctactccatt tatccaaatg 840
ttaatgaact ttctcttagt gaacatggca ctgttgacac cacctaagtc ataaaaacgg 900
gtctcaaggg aggaaatgac tcagtgtgtt taatacaggt ttccctgcta agcctcaatc 960
tggggaagtc ctgttggttt tgggaagtga gcagcagttc tctatgtggt taaaaaaaac 1020
aacgacaaca aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1059
  
```

<210> 88
 <211> 192
 <212> PRT
 <213> Homo sapiens

<400> 88

```

Met Thr Lys Gly Ile Thr Phe Leu Asn Leu Asp Tyr Tyr Val Ala Val
  1             5             10            15

Tyr Leu Pro Gly His Phe Phe His Leu Leu Asn Val Gln His Pro Asp
      20             25            30

Leu Ile Cys His Asn Leu Phe Leu Thr Gly Asn Asn Glu Met Ile Asp
      35             40            45

Met Leu Pro His Cys Pro Leu Gln Ser Leu Ser Gly Ser Leu Val Leu
      50             55            60

Asp Cys Cys Ser Gly Lys Leu Tyr Arg Ala Leu Leu Ser Gln Ser Ser
      65             70            75            80

Leu Leu Gln Leu Leu Gln Asn Thr Cys Leu Asp Cys Glu Lys Met Ala
      85             90            95

Ala Leu His Cys Ala Leu Tyr Cys Gly Gln Gly Ala Gln Phe Leu Glu
      100            105            110

Ala Gln Ile Ile Gln Trp Ile Ser Glu Asn Val Ser Ala Cys His Ser
      115            120            125

Phe Asp Leu Ile Gln Glu Phe Ile Ile Ala Ser Ser Tyr Trp Ser Val
      130            135            140

Tyr Ser Glu Thr Ser Asn Met Asp Lys Leu Leu Pro His Ser Ser Val
      145            150            155            160

Leu Thr Trp Asn Thr Glu Ile Pro Gly Ile Thr Leu Val Thr Glu Asp
  
```

165

170

175

Ile Ala Leu Pro Leu Met Lys Val Leu Lys Asn Val Leu Gly Ser Lys
180 185 190

<210> 89

<211> 2529

<212> DNA

<213> Homo sapiens

<400> 89

```

attttgcctt atgaaaacta agctgaatcg actgctgcc aacatctatt aggcaaaatt 60
ggcctcttgc ccatgatttg actttccagc acagccagtt ctttttctcc tctgcagctg 120
attggctctg gagtgtggcc agaagcctct ctctgcaat taaaggagtc gggctctctaa 180
ctgttgatct gtttttttcc cttctgagca atggagctta ccatctttat cctgagactg 240
gccatttaca tcctgacatt tccctgttac ctgctgaact ttctgggctt gtggagctgg 300
atatgcaaaa aatggttccc ctacttcttg gtgaggttca ctgtgatata caacgaacag 360
atggcaagca agaagcggga gctcttcagt aacctgcagg agtttgcggg cccctccggg 420
aaactctccc tgcctggaagt gggctgtggc acggggggcca acttcaagtt ctaccacact 480
gggtgcaggg tgacctgtat tgaccccaac cccaactttg agaagttttt gatcaagagc 540
attgcagaga accgacacct gcagtttgag cgctttgtgg tagctgccgg ggagaacatg 600
caccaggtgc ctgatggctc tgtggatgtg gtggtctgca cctgggtgct gtgctctgtg 660
aagaaccagg agcggattct ccgcgaggtg tgcagagtgc tgagaccggg aggggctttc 720
tatttcatgg agcatgtggc agctgagtg tgcacttggg attacttctg gcaacaagtc 780
ctggatctcg cctggcacct tctgtttgat ggggtcaacc tgaccagaga gagctggaag 840
gccttgagc gggccagctt ctctaagctg aagctgcagc acatccaggc cccactgtcc 900
tgggagttgg tgcgcctca tatctatgga tatgctgtga aatagtgtga gctggcagtt 960
aagagctgaa tggctcaaag aatttaaagc ttcagtttta catttaaaat gctaagtggg 1020
agaagagaaa cctttttttt gggggggcgt ttttttggtt tgtgtgtggt tttttttttt 1080
tttttggcgg gaagaaagag ttttgctctt gttgccagg ctggagtgc atggcgtgat 1140
ctccgctcac tgcacacct acctgcggg ttaagcgat tcttctgcct cagcctccct 1200
agtagctggg attacaggtg cccaccacca tgcccagcta atttgtatatt ttagttgaga 1260
cagggtttca ctacgttggc caggetggtc ttgaactcct gatctcaggc aatccacca 1320
cctcagctc ccaaagtgtc gggatgacag gcgtgagcaa ccgacccag cttaaagttt 1380
ttttgttttg ttttgagacg gatttttcgc tcttgttgcc caggctggag tgcaatgctg 1440
tgatctcagc ttaccacaac ctccacctcc cgggttcaag tgattcacct gcctcagcct 1500
cctgagtagc tggatttaca ggcattgcgc accacgccgg ctaattttgt acttttagta 1560
gagatggtgt ttccccacgt tggtcagtct ggtctcaaat tctgacctc aggtgatctg 1620
cctgcctcgg cctcccaaag tgcgtgtgatt acagacgtca gccaccatgc ctggcctgaa 1680
acctttttta ggtaaagtgt aattccatcc ttaaaagttt ctgttatcct atttagccat 1740
ttctattgt ctcccaaaga attcacatca aaaaaacagc tttgaactcc ccttcaaag 1800
gaaacagtcg actttcataa ttagcatcta ccattatccc caaatcttat tttattcatt 1860
gacttgaaat tttttccaat tgcttttttt tttttttttt ttaagggtta gagcagaggt 1920
ttactaggcc aaagaaagag aatagctctc tgttgagag aggggtcctg gagaaatggg 1980
ttacccagct tgccttattt aaatgggttac ccatcagatt ttaattttat cttctctttg 2040
agagcttggt aataagaagc acttaaataca ctcaaagaa gactttaaaa agggagcagt 2100
gaaaaggtct taataattta ttgattgaat taagaaatac tagctaatta agaactctgag 2160
tctaaacagc acagattttt tctttctgct tttaaattgt gttttaaaaa aagagacagg 2220
gggctgggcg tgggtgtcac gcctgtaatc ctagcacttt gggaggccga ggcgggtgga 2280
tcacgaggtg gtagttaaag accagcctgg ccaacatggc aaaaccctac taaagatata 2340
aaaaaaaaaa aaaattagcc aggcgtgggt gtgggtgcct gtaatcccag gtacttgag 2400
ggctgaggca ggagaatctc ttgaaccagc aaggcgaagg ttgcagtga ccgagatcat 2460
gccattgtac tctagcctgg gtgacaagag caagactccg tctcgaaaaa aaaaaaaaaa 2520
aaaaaaaaa                                     2529

```

<210> 90

<211> 244

<212> PRT

<213> Homo sapiens

<400> 90

Met Glu Leu Thr Ile Phe Ile Leu Arg Leu Ala Ile Tyr Ile Leu Thr
1 5 10 15

Phe Pro Leu Tyr Leu Leu Asn Phe Leu Gly Leu Trp Ser Trp Ile Cys
20 25 30

Lys Lys Trp Phe Pro Tyr Phe Leu Val Arg Phe Thr Val Ile Tyr Asn
35 40 45

Glu Gln Met Ala Ser Lys Lys Arg Glu Leu Phe Ser Asn Leu Gln Glu
50 55 60

Phe Ala Gly Pro Ser Gly Lys Leu Ser Leu Leu Glu Val Gly Cys Gly
65 70 75 80

Thr Gly Ala Asn Phe Lys Phe Tyr Pro Pro Gly Cys Arg Val Thr Cys
85 90 95

Ile Asp Pro Asn Pro Asn Phe Glu Lys Phe Leu Ile Lys Ser Ile Ala
100 105 110

Glu Asn Arg His Leu Gln Phe Glu Arg Phe Val Val Ala Ala Gly Glu
115 120 125

Asn Met His Gln Val Ala Asp Gly Ser Val Asp Val Val Val Cys Thr
130 135 140

Leu Val Leu Cys Ser Val Lys Asn Gln Glu Arg Ile Leu Arg Glu Val
145 150 155 160

Cys Arg Val Leu Arg Pro Gly Gly Ala Phe Tyr Phe Met Glu His Val
165 170 175

Ala Ala Glu Cys Ser Thr Trp Asn Tyr Phe Trp Gln Gln Val Leu Asp
180 185 190

Pro Ala Trp His Leu Leu Phe Asp Gly Cys Asn Leu Thr Arg Glu Ser
195 200 205

Trp Lys Ala Leu Glu Arg Ala Ser Phe Ser Lys Leu Lys Leu Gln His
210 215 220

Ile Gln Ala Pro Leu Ser Trp Glu Leu Val Arg Pro His Ile Tyr Gly
225 230 235 240

Tyr Ala Val Lys

<210> 91

<211> 2390

<212> DNA

<213> Homo sapiens

<400> 91

tgcccttcaaa gaaaaacctc ggtatccacc aagtcaggct caagcagctc ttcaagacag 60
tccccctgaa gagtactcct ataagaaatc aataagaaac ctgtttaaaa acattccttt 120
tgctcttctg ttgatcactt atggtatcat gactggtgcc ttttattcag tctcaacgtt 180

```

attaaatcaa atgatattga catattatga gggagaagaa gtcaatgctg gaaggattgg 240
gctaacgcta gtagtagctg gaatggtggg ctctattctt tgtggcttat ggctggatta 300
tactaaaaca tacaaacaga ctactctgat agtttatatt ttgtctttta ttggaatggt 360
tattctttact ttacattgg abcttagata tattatcatc gtgtttgtta ctggaggggt 420
gcttggtctt tcatgactg gttacctccc ttgggtttt gaatttgctg ttgaaatcac 480
ttacctgaa tctgaaggta ctctatctgg tcttcttaat gcttctgcac agatatttgg 540
aattttgttc acattggctc aaggaaagct cacatcagac tatggtccta aggcagggaa 600
catttttctc tgtgtctgga tgtttatagg catcatatta acagcattaa tcaagtctga 660
tctgcaaga cacaacataa atataggaat tacaaatgtt gatgttaaag ctataaccagc 720
tgacagtccc acagaccaag aacaaaaaac ggttagttg tccaagcagt cagaatcagc 780
aatttgaaga gaaaggcaaa gttactgtcc tgtagtaatt ggggacaatg tgatcatcct 840
tggagagaga tgtgagcacc aaggctgggt ttgtatgtgg tgggggaata aacacactta 900
cttgaataat accatatgaa ctctaaatgc ataattattg ttttgcttaa ttgttaaatt 960
aagggaaatt ttcttaaat tcttctgttt acatcatgtt aacactactg tttatctaatt 1020
tagtatccgg tttttagtct catattgtat ctgaaagtaa gcttcttgac gtttactttt 1080
taaaagtcga tgttttctt tttttagtaa aatggaagct tagaatactt tttaaagtga 1140
taatatgggg tgttcagtc ccataagata taatagtcca tgcagtttat atattaaagt 1200
atccagtggg actaaatgta caatatatcc ctaattggct gcctttttca ctgtgctgac 1260
cagctgttca agccacttca gtttgagtac aacataccaa catgacacta ctcaccaca 1320
aaggacagca ttgggatcag gctttcagat gacctctaag attttccca tttattgtac 1380
tcttgttaca aagtactttt taacacatgc agtcaatggc tataaaaaact attctgtgta 1440
cagattctac ccagactttg gtcttagaat tatgttctaa ttaaggagcc tggttacagg 1500
ttcattctgt ctgagttct tttctgtgct gcctttctat catggataaa tgctaacgct 1560
gtatttttcc actccaactt gagatagagt agttttgtac ccattgcctt tttttcttt 1620
taaactctct tttttttttt ttctgtatgt gtaactttct agtaagataa tttcatcatg 1680
tatgttactg gctatttcat gatttcatgt atcacatcgt atattttgcc ttgaagattc 1740
ctgaaataag gaaatctata ataacttcag atagcctaca tgtccccatt tagtgagac 1800
ctcttgaatg ctatttgaat tctgcagtat catttttatg accattctcc tttgaggaat 1860
actatgcccc ggtacatgct ctatcagtg gctgggagag tggattcttt tcttactgc 1920
agagtcacat cacgtttaga atagtctgct ctttacatg ctgaggtagg gaaaatagga 1980
ccaaatataa ttccacagt cctaccactg tgtcatgttt acagtggag tttaaatatt 2040
gttgatgtcc tgactctgtg agtcatagg gagtatcttc atagtaatga catttgatca 2100
gccataaaat ttacattatg ttcatatgca ccaaaaaaag ctatgcaggt aatgaatacc 2160
cttgaagtga atagcaattt tgatttaggc agtgtgttag gccatccttg cattgctata 2220
aagaaatatt taggctgggc gtggtggctc acgcctgtaa tcccagcact ttgggaggct 2280
gaagcgtgtg gatcacctga ggtcaggagt tcaagaccag cctggccaac atggtaaaac 2340
cccattctca ctaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2390

```

<210> 92
 <211> 212
 <212> PRT
 <213> Homo sapiens

<400> 92
 Met Thr Gly Ala Phe Tyr Ser Val Ser Thr Leu Leu Asn Gln Met Ile
 1 5 10 15
 Leu Thr Tyr Tyr Glu Gly Glu Glu Val Asn Ala Gly Arg Ile Gly Leu
 20 25 30
 Thr Leu Val Val Ala Gly Met Val Gly Ser Ile Leu Cys Gly Leu Trp
 35 40 45
 Leu Asp Tyr Thr Lys Thr Tyr Lys Gln Thr Thr Leu Ile Val Tyr Ile
 50 55 60
 Leu Ser Phe Ile Gly Met Val Ile Phe Thr Phe Thr Leu Asp Leu Arg
 65 70 75 80
 Tyr Ile Ile Ile Val Phe Val Thr Gly Gly Val Leu Gly Phe Phe Met

85

90

95

Thr Gly Tyr Leu Pro Leu Gly Phe Glu Phe Ala Val Glu Ile Thr Tyr
100 105 110

Pro Glu Ser Glu Gly Thr Ser Ser Gly Leu Leu Asn Ala Ser Ala Gln
115 120 125

Ile Phe Gly Ile Leu Phe Thr Leu Ala Gln Gly Lys Leu Thr Ser Asp
130 135 140

Tyr Gly Pro Lys Ala Gly Asn Ile Phe Leu Cys Val Trp Met Phe Ile
145 150 155 160

Gly Ile Ile Leu Thr Ala Leu Ile Lys Ser Asp Leu Arg Arg His Asn
165 170 175

Ile Asn Ile Gly Ile Thr Asn Val Asp Val Lys Ala Ile Pro Ala Asp
180 185 190

Ser Pro Thr Asp Gln Glu Pro Lys Thr Val Met Leu Ser Lys Gln Ser
195 200 205

Glu Ser Ala Ile
210

<210> 93

<211> 2922

<212> DNA

<213> Homo sapiens

<400> 93

gaggcgggtt aaggtctgag ggtcttgtgg ggccacggcg ctgatcacca ggtgtttggc 60
ttggtcgggt cttatttctc gcctggcaat ggcgacgtac acctgcataa cttgccgggt 120
ggcgttccgc gacgcggaca tgcagcgggc ccactataag acggactggc accgctacaa 180
cctgcgccgg aaggtggcca gcatggcccc agtgaccgcc gagggcttcc aggagcgagt 240
gcgggcgag cgggccgtcg cggaggagga gagcaaggcg tcggccacct actgcaccgt 300
ttgcagtaag aagtttgctt ctttcaacgc ctacgagaac cacctcaagt cccggcgtca 360
cggtgagctg gagaagaagg ccgtgcaggc agtgaatcgg aaagtggaga tgatgaatga 420
aaagaacttg gagaaaggac tgggcgtgga cagtgtggac aaggatgcca tgaacgcggc 480
catccagcag gccatcaagg ccagccgtc catgtctccc aagaaggcgc cccagcgcgc 540
tgcaaaggag gccaggaatg tcgtggccgt gggacttggg ggccgtggga cccacgaccg 600
agacccgagt gagaaaccac cccggctcca gtggtttgaa cagcaggcga agaagtggc 660
aaagcagcag gaggaggaca gcgaggagga ggaaggagc ctggatggag acgattggga 720
agatattgat tctgatgaag aattggaatg tgaggatact gaagcaatgg acgatgtggg 780
ggagcaggat gcagaggagg aagaggctga ggaaggccca ccccttggg ccatccctat 840
cacggactgc ttattttgtt cccatcatc cagctcgctg atgaagaatg tggctcacat 900
gaccaaagac cacagtttct ttattcctga tatagaatat ctttcagata ttaagggact 960
gattaaatac ttgggagaga aagttggtgt tggaagatt tgcttgtggg gcaacgagaa 1020
aggggaagtcc ttctactcca cagaagctgt acaggcacat atgaatgaca aaagccactg 1080
taagctcttc acagatggcg atgctgcttt ggaatttgca gacttctatg attttaggag 1140
tagctatcca gatcacaagg aaggggagga cccaataaag gctgaggagt tgccctcaga 1200
aaagaacttg gaatatgat atgaaacctt ggaattgatt ctgccttctg gtgccagagt 1260
gggtcatcgc tcttgatga gatactacaa acagcgattt ggcttgtaaa gagctgtggc 1320
agttgccaaa aatcggaagg ccgtgggccc agtacttcag cagtacagag ccctgggatg 1380
gactggcagc acaggtacat tgatctttac aactacagac cagtctgaga acttgatatt 1440
ctagaagggg tctggggaaa gttgtttcca ttatgttgt ccatgtggat tctctctagg 1500
ggaaacgtaa cgtcttggtt ccagggaact ccattaccac ttgatattgt taaggcaata 1560
agcccaaaagt gctatgactt agaaatttca tattcctggc acagtgattt tatataccat 1620

```

taactttttc agaagataat agttacaaaa agaattattt agtaatcacc aaaggttgaa 1680
attatcctgg aggttatgca gaggaattag atagtatcct agtgggtaat agcttgagct 1740
gtggagtcag acgtgactta tgtgatgtac ttagagggtc ttatatgatg aacatgagta 1800
atttaattaa tataagcttc tgtttcctca tttataaaac agagatgata gtaataagac 1860
ctacctctta gaggtagtg ggttgaatgt catgcatgtg tgatatagtg catgcccata 1920
gtcgagggtta gctatcagtc cccttttttg taattttccc atagaaaatt tagcaaaagt 1980
tagaagagta aagcatgcca ctgcaattgt tgagttttga aacctcatca gtatggtact 2040
ctttacatct attctgatgt gtcttctgga tgaagctggg tatatcctta gatcttcagg 2100
gaaagcatct atccaactga ggactgtgga gaaaataaga ggcgggctgc cttctgatgg 2160
cctgggaagc tctaggcaac taaaatccat ttgaaaaggc actgtgttta tatgtgggtt 2220
ccttcactgt ggctgcttgt gagctgtgtg gccacttgaa tctggcagag acttgacttc 2280
atcttactct tatcaggaag tattgtctga ctcgatatat agcttctgcc tttctgatta 2340
atggggcttt accttttggg cttataaaact cttccagatg atgaaaacta aagctactaa 2400
tcccagataa gtgtatatat acaaaagttc tggtagcaaa ttctggagtc cacagagacc 2460
cctgaggcgc atggcttaga gaccccaagt tagcaactct gttttaaata caagaacctta 2520
gttaccctaa actaaccttt tgaattctct gcccaagggtg gatcttctct gatcacaat 2580
aacagaactt tgctaattt cttaactgcc ttccaatcat aggagcggct cttatgagag 2640
agcgagacat gcagtatgtc caaaggatga aatcaaaatg gatgtgaag acaggaatga 2700
agaacaatgc caccaagcag atgcactttc gggccaagt gagattctga gagtctgtg 2760
ggattgagca atcatctcct gcccaagttt cctccttgcc ctgaggacca gtgaaagaca 2820
gatcatagga gagacccttt tgctgctact tcattcggtc tgaccttaata ataaaagtta 2880
gaaccataaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aa 2922

```

<210> 94

<211> 451

<212> PRT

<213> Homo sapiens

<400> 94

Met Ala Thr Tyr Thr Cys Ile Thr Cys Arg Val Ala Phe Arg Asp Ala
1 5 10 15

Asp Met Gln Arg Ala His Tyr Lys Thr Asp Trp His Arg Tyr Asn Leu
20 25 30

Arg Arg Lys Val Ala Ser Met Ala Pro Val Thr Ala Glu Gly Phe Gln
35 40 45

Glu Arg Val Arg Ala Gln Arg Ala Val Ala Glu Glu Glu Ser Lys Gly
50 55 60

Ser Ala Thr Tyr Cys Thr Val Cys Ser Lys Lys Phe Ala Ser Phe Asn
65 70 75 80

Ala Tyr Glu Asn His Leu Lys Ser Arg Arg His Val Glu Leu Glu Lys
85 90 95

Lys Ala Val Gln Ala Val Asn Arg Lys Val Glu Met Met Asn Glu Lys
100 105 110

Asn Leu Glu Lys Gly Leu Gly Val Asp Ser Val Asp Lys Asp Ala Met
115 120 125

Asn Ala Ala Ile Gln Gln Ala Ile Lys Ala Gln Pro Ser Met Ser Pro
130 135 140

Lys Lys Ala Pro Pro Ala Pro Ala Lys Glu Ala Arg Asn Val Val Ala
145 150 155 160

Val Gly Thr Gly Gly Arg Gly Thr His Asp Arg Asp Pro Ser Glu Lys

<213> Homo sapiens

<400> 95

```
ctgcagtctg tctgagggcg gccgaagtgg ctggctcatt taagatgagg cttctgctgc 60
ttctcctagt gccggcgtct gcgatggtec ggagcgaggg ctcggccaat ctgggcggcg 120
tgcccagcaa gagattaaag atgcagtacg ccacggggcc gctgctcaag ttccagattt 180
gtgtttctct aggttatagg cgggtgtttg aggagtacat gcgggttatt agccagcggg 240
accagacat ccgcattgaa ggagagaatt acctccctca accaatatat agacacatag 300
catctttcct gtcagtcttc aaactagtat taataggctt aataattgtt ggcaaggatc 360
cttttgcttt ctttggcatg caagctccta gcatctggca gtggggccaa gaaaataagg 420
tttatgcatg tatgatggtt ttcttcttga gcaacatgat tgagaaccag tgtatgtcaa 480
caggtgcatt tgagataact ttaaatgatg tacctgtgtg gtctaagctg gaatctggtc 540
accttccatc catgcaacaa cttgttcaaa ttcttgacaa tgaaatgaag ctcaatgtgc 600
atatggattc aatcccacac catcgatcat agcaccacct atcagcactg aaaactcttt 660
tgcattaagg gatcattgca agagcagcgt gactgacatt atgaaggcct gtactgaaga 720
cagcaagctg ttagtacaga ccagatgctt tcttggcagg ctctgtgtac ctcttggaag 780
acctcaatgc aagatagtgt ttccagtgtg gcatattttg gaattctgca cattcatgga 840
gtgcaataat actgtatagc ttccccacc tcccacaaag tcaccagtt aatgtgtgtg 900
tgtgtttttt tttaaggta aacattacta cttgtaactt ttttcttag tcatatttga 960
aaaagtagaa aattgagtta caatttgatt tttttccaa agatgtctgt taaatctgtt 1020
gtgcttttat atgaatattt gttttttata gtttaaaatt gatcctttgg gaatccagtt 1080
gaagttccca aatactttat aagagtttat cagacatctc taatttggcc atgtccagtt 1140
tatacagttt acaaaatata gcagatgcaa gattatgggg gaaatcctat attcagagta 1200
ctctataaat tttgtgtat gtgtgtatgt gcgtgtgatt accagagaac tactaaaaaa 1260
accaactgct ttttaaatcc tattgtgtag ttaaagtgtc atgccttgac caatctaatt 1320
aattgattaa ttaactgggc ctttataact aactaaataa aaaactaagc agatatgaaa 1380
aaaaaaaaaa aaaaaa 1395
```

<210> 96

<211> 137

<212> PRT

<213> Homo sapiens

<400> 96

```
Met Arg Val Ile Ser Gln Arg Tyr Pro Asp Ile Arg Ile Glu Gly Glu
 1             5             10            15

Asn Tyr Leu Pro Gln Pro Ile Tyr Arg His Ile Ala Ser Phe Leu Ser
 20            25            30

Val Phe Lys Leu Val Leu Ile Gly Leu Ile Ile Val Gly Lys Asp Pro
 35            40            45

Phe Ala Phe Phe Gly Met Gln Ala Pro Ser Ile Trp Gln Trp Gly Gln
 50            55            60

Glu Asn Lys Val Tyr Ala Cys Met Met Val Phe Phe Leu Ser Asn Met
 65            70            75            80

Ile Glu Asn Gln Cys Met Ser Thr Gly Ala Phe Glu Ile Thr Leu Asn
 85            90            95

Asp Val Pro Val Trp Ser Lys Leu Glu Ser Gly His Leu Pro Ser Met
100            105            110

Gln Gln Leu Val Gln Ile Leu Asp Asn Glu Met Lys Leu Asn Val His
115            120            125

Met Asp Ser Ile Pro His His Arg Ser
130            135
```

<210> 97
 <211> 1299
 <212> DNA
 <213> Homo sapiens

<400> 97
 aggatattcga attcaatcgg gaccaaaggt cagaaagaaa agttatctga gtagactgat 60
 gctctcaaac aggtttccgt tctctgcagc gaagagcctc ataaattccc cttcacaagg 120
 ggctttttca tccttaagag acctgagtc tcaagaaaat ctttttctgg aagtatctgc 180
 tccttcagaa ctttttatag aaaacaataa tacaaaagac acaactgcaa gaaatgcctt 240
 tgaagaaaat gtttttatgg aaaacactaa catgccagaa ggaaccatct ctgaaaacac 300
 aaactacaat catctcctg aggcagattc cgctgggact gcattcaact tagggccaac 360
 tggttaacaa actgagacaa aatgggaata caacaacgtg ggactgacc tgtccccca 420
 gcccaaaagc ttcaattacc cattgctctc gtcccagggt atcagtttga aattcagcta 480
 acccagcagc tgcagtcctg tatccccaac aacaatgtga gaaggctcat tgctcatgtt 540
 atccggacct tgaagatgga ctgctctggg gcccatgtgc aagtgacctg tgccaagctc 600
 gtctccagga caggccacct gatgaagctt ctgagtgagg agcaggaagt aaaggcatcc 660
 aagatagaat gggatacaga ccaatggaag actgagaact acattaatga gagcacagaa 720
 gccagagtg aacagaaaga gaagtcgctt gagttcaca aagaacttcc aggatatggc 780
 tataccaaaa aactcatctt ggcgttaatt gtgactgaa tactaacgat tttgattata 840
 cttctctgcc tcattgagat ctgttgtcac cgaagggtcat tacaagaaga tgaagaagga 900
 ttctcaaggg acagcgaagc cccaacggag gaggagagtg aagccctgcc ataggaggag 960
 aaccagccc acctcaggcc tcctgcaaaa atacatagcg taaacaacgg ccatcaaaaa 1020
 agcaggactg aagccagcgg cccacacatc cacagaggca gcgggcagag caagcacagg 1080
 gccatcgctt ctgcccttgt ttcccagctt aattagtcac ccagacctga aaacatatgc 1140
 tcaggggggt gagattttac aattaaataa cattgtttt ggtgccctcc aaaaaaaaaa 1200
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1260
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1299

<210> 98
 <211> 132
 <212> PRT
 <213> Homo sapiens

<400> 98
 Met Asp Cys Ser Gly Ala His Val Gln Val Thr Cys Ala Lys Leu Val
 1 5 10 15
 Ser Arg Thr Gly His Leu Met Lys Leu Leu Ser Gly Gln Gln Glu Val
 20 25 30
 Lys Ala Ser Lys Ile Glu Trp Asp Thr Asp Gln Trp Lys Thr Glu Asn
 35 40 45
 Tyr Ile Asn Glu Ser Thr Glu Ala Gln Ser Glu Gln Lys Glu Lys Ser
 50 55 60
 Leu Glu Phe Thr Lys Glu Leu Pro Gly Tyr Gly Tyr Thr Lys Lys Leu
 65 70 75 80
 Ile Leu Ala Leu Ile Val Thr Gly Ile Leu Thr Ile Leu Ile Ile Leu
 85 90 95
 Leu Cys Leu Ile Glu Ile Cys Cys His Arg Arg Ser Leu Gln Glu Asp
 100 105 110
 Glu Glu Gly Phe Ser Arg Asp Ser Glu Ala Pro Thr Glu Glu Glu Ser
 115 120 125

Glu Ala Leu Pro
130

<210> 99
<211> 915
<212> DNA
<213> Homo sapiens

<400> 99
cgagcatccc gctgccccgg accctcccgc gggcgcgac caggctcaac tcaggctcag 60
gactgcaggt agacatctcc actgcccagg aatcactgag cgtgcagaca gcacagcctc 120
ctctgaaggc cggccatacc agagtccctgc ctccgcatgg gcctcaccat tgaggcagct 180
ccactgtctg tgctgggtctg aggggtgctgc ctgtcatggg ggcagccatc tcccaggggg 240
ccctcatcgc catcgtctgc aacggctctgc tgggcttctt gctgctgctg ctctgggtca 300
tcctctgctg ggcctgccat tctcgtctgc ccgacgttga ctctctctct gaatccagtc 360
ccaactccag ccctggcccc tgtcctgaga agggccccacc accccagaag cccagccatg 420
aaggcagcta cctgctgcag ccctgaaggc ccctggccta gcctggagcc caggaccta 480
gtccaccta cctagagcct ggaattagga tcccagagtt cagccagcct ggggtccaga 540
actcaagagt ccgctgctt ggagctggac ccagcggccc agagtctagc cagcttggct 600
ccaataggag ctgagtgccc ctaaggagat gggcctgggg tgggggctta tgagttggg 660
ctagagccag ggcatctgg actatgctcc atcccaaggg ccaagggtca ggggccgggt 720
ccactcttc cctaggctga gcacctctag gccctctagg ttggggaagc aaactggaac 780
ccatggcaat aataggaggg tgtccaggct gggccccctc cctggctctc ccagtgtttg 840
ctggataata aatggaacta tggctctaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 900
aaaaaaaaaa aaaaa 915

<210> 100
<211> 76
<212> PRT
<213> Homo sapiens

<400> 100
Met Gly Ala Ala Ile Ser Gln Gly Ala Leu Ile Ala Ile Val Cys Asn
1 5 10 15
Gly Leu Val Gly Phe Leu Leu Leu Leu Trp Val Ile Leu Cys Trp
20 25 30
Ala Cys His Ser Arg Ser Ala Asp Val Asp Ser Leu Ser Glu Ser Ser
35 40 45
Pro Asn Ser Ser Pro Gly Pro Cys Pro Glu Lys Ala Pro Pro Pro Gln
50 55 60
Lys Pro Ser His Glu Gly Ser Tyr Leu Leu Gln Pro
65 70 75

<210> 101
<211> 2915
<212> DNA
<213> Homo sapiens

<400> 101
caaacttggg gggaaacttc attcatttgg tttattttta tttttatatt tatttatctt 60
tttgagacag aatctcactc tggtttgaga cagaatctca ctgtgtcccc cagggttgag 120
tgcggtggtg cgatctcggc tcaactgaaac ctctgcctcc tgggttcaag cgattctcct 180
gcttcacct ccgagtagct gggattacag gtgtgcacca ccacaccgg ctaatttttg 240

tatttttggg agagacgggt tcgccacatt ggctagggtg gtgtcaaact cctggcctca 300
aagtgatccg cccaccttgg cctcccaaaag tggagccccc gtgccccttg tttgtgacct 360
gtcaatataa atatgtctcag tagcggggggg aggggtgggg ggtgaaaaag gaaatatgtt 420
taatatataag actttggcct tttagtgtaa actgatattc aaaaatttct tcatagaaca 480
tttgcttctt tgcttgatca tttttctaata tctgtacatc taaaatgccc agaatttgag 540
ttgtctgttat agtctactaa catagaactt tggagtaata agatgggaat ttgtctctct 600
tttgccaaga caagtattcg taatctaaca cagtattgtt gccacgagta cgagtatgtg 660
atagactggt gagaataaaag aaagcaggca cagttgggtca gtcctaagat aaaggagatg 720
ttttttctta tatgtttgtg cattaaagaa aaaaaaatct tgaatctgac caatgatgtt 780
ttttttcctt gtaagaaaaat ttaacaaatg tttggcaagc ttctggaatc taaatttgaa 840
attatacatt tgtcattttc tttaaatatt tcttcacctt agctttgatt atgagaaatc 900
actgtcctct gctgttcttt tttttttttt ttcttttgag gcggagtctc actctgtgcc 960
aggctggagt gcagtgtgtc aatctcggct cactgcaacc tccacttcct gggttcaaat 1020
gattctcctg ccgcagcctc ccgagtagct gggactacag gtgcattgca ccacaccag 1080
ctaatttttg tatttttggg agagacaggg tttcaccacg ttgtccatgg ccaggatggg 1140
cttgatcttg accttggat ccgcccgcct cggcctccca aagtgtctgg attgcaggca 1200
tgagccaccg tgcccggcct gtctctctgt gttttctggg cttatgttaa aattataact 1260
caatcaccag tctttatata tttgcttttt tatatttaaa ccaaacctaa tgctaattgt 1320
gatattgttat ttattctcac ctgatttgaa tcattggatt caattaaatg agtttaatta 1380
tcattaaata attctaagag aaataatgtc tattcggatg gtgggaattt tctttctaca 1440
tgcagcccca ttctgaatga atgaaatcaa atcatgtgaa gatcagggtc ctagagtaac 1500
ctaataattt gtacattggt tatttgactc ctcatTTTTa tattaaatgt tatatcaagg 1560
gaggggggtat aaaagaaata caaaaattgc agaggtatct ggaatgtacc tatttgtaa 1620
ttctatttgt catttctttt gtttcatctt ttgagtaata agctgcttg aaaagtttct 1680
gttcttttagc tgatttttta gctataaaaa tgtatttgaa aagctcataa atttcaggat 1740
tgaaaagata attggaagtt taaaaaaaac ctaattcatt gaagtaataa ccaataaatt 1800
ttcaatcttg attcaactgt gattcaaatc ttacaccatt tgcccacttc tatgaatttt 1860
atgtataaaa ttttttaaga gtcagagttt ttttttcttg attaatgga tgtatttcac 1920
agaatttcca actgctcacg ttagttttct tctttttaga gttgatctct ctaatgtatt 1980
agatcttcat gcctttgata gtctctctgg aataagttgt ttttagtttg cagaaaaaac 2040
ttcagcatgt gccaggaaca caacctcacc ttgatcagag tattgttaca atcacatttg 2100
aagtaccagg aatgcгааг gaagaacatc ttaatatgtt tattcagaat ctctgtggg 2160
aaaagaatgt gagaaacaag gacaatcact gcatggaggt cataaggctg aagggttg 2220
tgtcaatcaa agacaaatca caacaagtga ttgtccaggg tgtccatgag ctctatgatc 2280
tggaggagac tccagtgtgc tggaaggatg aactgagag aacaaatcga ttggtcctca 2340
ttggcagaaa tttagataag gatattctta aacagctgtt tatagctact gtgacagaaa 2400
cagaaaagca gtggacaaca catttcaaag aagatcaagt ttgtacataa cactagtggc 2460
atttcttctc aaaaggattg gataataaaa ataagtttct actgggtata tttcaagcat 2520
ttatttatta ctttagttac gaattccaat atacttttaa atggtatttg ttttacagca 2580
tacataaaat gtagcaaatc agtactgtaa aacatttaac attcatacaa ttatatataa 2640
tatccttttt tttaaagaat ggtatttcac aaaaatatct tttgaaattg gctttggagt 2700
ttacatatac tgaacatgaa agtttataat aatgatgata caactttcaa cattgtcatt 2760
ttttctttaga acttcagctg attgcagaga tataatgatt acattgttat taaatttttt 2820
taacacaagt aagtgtcacc attttatgac atgaaataaa aggttatgac tgttaaaaaa 2880
aaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa 2915

<210> 102

<211> 104

<212> PRT

<213> Homo sapiens

<400> 102

Met Phe Ile Gln Asn Leu Leu Trp Glu Lys Asn Val Arg Asn Lys Asp
1 5 10 15

Asn His Cys Met Glu Val Ile Arg Leu Lys Gly Leu Val Ser Ile Lys
20 25 30

Asp Lys Ser Gln Gln Val Ile Val Gln Gly Val His Glu Leu Tyr Asp
35 40 45

Leu Glu Glu Thr Pro Val Ser Trp Lys Asp Asp Thr Glu Arg Thr Asn
 50 55 60
 Arg Leu Val Leu Ile Gly Arg Asn Leu Asp Lys Asp Ile Leu Lys Gln
 65 70 75 80
 Leu Phe Ile Ala Thr Val Thr Glu Thr Glu Lys Gln Trp Thr Thr His
 85 90 95
 Phe Lys Glu Asp Gln Val Cys Thr
 100

<210> 103
 <211> 1530
 <212> DNA
 <213> Homo sapiens

<400> 103
 atcgggagat atacctaattg ctagatgatg agttagtggg tgcagcgcac cagcacggca 60
 catgtataca tatgttaacta acctgcacaa tgtgcacatg taccctaaaa cttaaagtat 120
 atatatataa aaaaagacat cgctagttag cagcgtgtat acgacatcgc taatgaggac 180
 accatacaag gcatcgctaa cgatgacgct gtacacaaca tctaataatga tgacaccgta 240
 taagacatcg ctaattatga cgctgtatag gacatcgcta atgacaccgt acaaggcacg 300
 ctaacgagga tgctgtacac gacatcacta atgaggacag tgtacaagcc atcactaatg 360
 aggacactgt atatggcatc gctaacgagg aactgtgata aggcattgct aacgaggacg 420
 ctgtacacaa catcgctaata gaggacacca tataagacat caccaatgag gatgctgtat 480
 atgacatcgc taatggcacc cacaaggcat gctaacgagg acgctgtaga cgacattgct 540
 tataaggaca ccgtacaaga catcgctaac gaggacgctg tatacgacat cgctaattgag 600
 gacgttgtat atgacatcgc taatgaggat gctttacaag acatagctaa tgaggttgct 660
 gtatatgaca tcgctaataa ggacattgta tatgacatcg ctaattgagga cgctctatac 720
 gacatcacta atgaggacgc tgtatacaac atcgctaata aggacgctgt atatggcatc 780
 gctaattgagg atgctgtata cgaattcgtt aataaggacg ctgtatatga cattgctaata 840
 gaggacactg tacaagacat ctgtaaaaaa gaagatgctg ccaatgagcc attgacactg 900
 gagaatgata cgtaccctga aataactcac ttcttgagga aaaagcgcca tctctagggg 960
 atctcccggt gtgagttagg aggcggggtc ggaccctggc agtctgacgg cagcacctgt 1020
 gttcctctgc actgggcccgt ggatgacatt acacaccttg ccactccac ggtcctgtgt 1080
 gttccggata ttttaaaata atggctataa ggttgagcac ttcaggatac gctgttttgc 1140
 tgtgtgcaga tggaggcagt ggctggagtg aatgaacggc aacacttgct ggcaaccggc 1200
 agaagctgag agacagggaa caggctctcc tccagagcct ccaggagcca ggcccttgga 1260
 caccctgaat gtgggcttct gggagacat cggtttctgt tataagcagc ccagtctctg 1320
 gcagttttta cggctgcccc ggaacactca tctatacctg tctgacaagg tcaagctcca 1380
 aggaagggac tctctacata tctacattgt ttgcagattt tacaataatc atttattctt 1440
 gcatggctga tcattgttaa ccaatacaaa taaaataata aagaaatgac ccacatttta 1500
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1530

<210> 104
 <211> 215
 <212> PRT
 <213> Homo sapiens

<400> 104
 Met Leu Tyr Thr Thr Ser Leu Met Arg Thr Val Tyr Lys Pro Ser Leu
 1 5 10 15
 Met Arg Thr Leu Tyr Met Ala Ser Leu Thr Arg Thr Leu Tyr Lys Ala
 20 25 30
 Leu Leu Thr Arg Thr Leu Tyr Thr Thr Ser Leu Met Arg Thr Pro Tyr

35 40 45
 Lys Thr Ser Pro Met Arg Met Leu Tyr Met Thr Ser Leu Met Ala Pro
 50 55 60
 Thr Arg His Ala Asn Glu Asp Ala Val Asp Asp Ile Ala Tyr Lys Asp
 65 70 75 80
 Thr Val Gln Asp Ile Ala Asn Glu Asp Ala Val Tyr Asp Ile Ala Asn
 85 90 95
 Glu Asp Val Val Tyr Asp Ile Ala Asn Glu Asp Ala Leu Gln Asp Ile
 100 105 110
 Ala Asn Glu Val Ala Val Tyr Asp Ile Ala Asn Glu Asp Ile Val Tyr
 115 120 125
 Asp Ile Ala Asn Glu Asp Ala Leu Tyr Asp Ile Thr Asn Glu Asp Ala
 130 135 140
 Val Tyr Asn Ile Ala Asn Glu Asp Ala Val Tyr Gly Ile Ala Asn Glu
 145 150 155 160
 Asp Ala Val Tyr Glu Phe Ala Asn Lys Asp Ala Val Tyr Asp Ile Ala
 165 170 175
 Asn Glu Asp Thr Val Gln Asp Ile Cys Lys Lys Glu Asp Ala Ala Asn
 180 185 190
 Glu Pro Leu Thr Leu Glu Asn Asp Thr Tyr Pro Glu Ile Thr His Phe
 195 200 205
 Leu Arg Lys Lys Arg His Leu
 210 215

<210> 105
 <211> 2423
 <212> DNA
 <213> Homo sapiens

<400> 105
 gactgcaccg tgactaacat gcagtgacag cttaattaat gttaaccctt atcattatca 60
 tataagaatg tgagttacat aagagaggag tcctgtcagt tcgttctctg ctgtgtcccc 120
 aagaccatga atcatggctg gcatgtagta ggcatttaat aatatatgtt caacaagtat 180
 ttggcagctt tggagggcag aaaaggaggt ggggaagatt tttaaataac attttttaaa 240
 aagtcacatt gtcctacaat actgattttt cttgcatatt taggaaattg agggtttttt 300
 tctaaaacat gcgacatat gggaaatagg atgcaacatt tgcactaatg tttcagacac 360
 agttagaggt ttccaagaga ttttgcgctg gggaggtgc ttgctacaag ctcccaaagc 420
 tctgggagga catagtattc attcctccct cagcagaagc ggtgaggcaa gaagctctgg 480
 ggagcaccca gcgttggaact tttagcatag tgtgtcaggt cttcatagtt tgggcccagg 540
 gcacagagaa gtcacagctc tccggcatcc tgtgaccttt accctctttg ccaagggaag 600
 atgtggccca ccaaagcaag aaacttgagg gcatgggtca cccagacctt ggcactctgc 660
 cagagcccga gaaggaagga acaatgatcc tccagctacc tcacggggct ggcacagggtg 720
 accactgccc tggcatcacc cagctgtgtc cggcagcctg aaccccatct gtggggatgc 780
 gaggaggaag atacaaaagt ccttaggtga acactgagaa ggcagatgca gcagaaacct 840
 ccaggccaga actaccagc cttggacctt tgggtggagat agagcatagc tggcgatcat 900
 gtgtacttac actctaaggt cacttggttg cactatggcc tcatctgttg ctctgaaaat 960
 gaagatttgg aaggagatca tcacagctaa tgtttaacaa gccctcctg tgtgccaaat 1020
 cattcaccct tcaccacaac cgaatgagct aaggattctc attatatata gtttatggag 1080

```

agggaagtgc agacataaag aggtgaatta tcttaccag atcacacagc tgataagtgg 1140
tggaggcaga atagaatcta aacagtgtgg ctccggagcc cacatgcatt gattcgacaa 1200
gtgtttattg agcacctgcc gcggacaagg ccttgtgtga ttaaataagg ttataattag 1260
taatatataaa atgagaatc attaatgctt tttagactta acattttgtt tttttgtagg 1320
tttcaggcac agaactgtat atccaataat agtgaaatgg atcccactaa ttaatgacaga 1380
aatgatgata catttaaatg acttggatgt tttataggta tgatctctgt aaatcttgag 1440
agaaactgaa tgacgaatga aactattgtt cctgtttcac acagaagaaa actgaggta 1500
aaaggggtaa agtaattttg catggcatga agtagaaatt caaagtacag gaatttgaac 1560
ttggttctgt ccttttctga agccttgac cactatagac tcaaacatca cctgttttt 1620
ccactcattc aacacttttt tttttaaat atctaatagg ttggcactca tcatgagccc 1680
ctgttctcat tctgcaaatg gtgaagctct ctattgtcct gacccacag ttctgtccc 1740
atgaccaggg ccagctcacc aaggagctgc agcagcatgt aaagtcatg acatgccc 1800
gagtagacct gaggaagggt agtgagtga gacagatgg gcctgggtgcc cttgagcagt 1860
tcccgggtct cagctgccac acatctcata gccggtgatg ctgggggaag cttacgcagt 1920
cacagtagtg gcttcttctt ctttttcttt ccatacaagt ggcttaggga tggggtagag 1980
tagttgactt atttgatga aaaccactat cttctgtcag aaactcaaaa ggaatcattg 2040
ctggcatggt aacctaaga aaaacaacca gacaagtgcc caacgacact taaaaagggtg 2100
atattattatc ttgccaagtt tgggctgggc atggtgactc atgcctctaa tcccagcatt 2160
ttgggagggt gaggtctgtg gatcacccga ggccaggact ttgagaccag cctgaccaat 2220
atggcgaaac ctctccctg ctgggaatgc aaagggttagc cgggcatggt ggtgtgagcc 2280
tgtagtccca gctactcagg aggtgagac aggagaattg cttggattcg ggagggtggg 2340
gttttggtgg gccgagatca cgccattgca ctccagactg tgcgacagag cgagactctg 2400
tcaaaaaaaaa aaaaaaaaaaaa aaa 2423

```

<210> 106
 <211> 66
 <212> PRT
 <213> Homo sapiens

```

<400> 106
Met Val Lys Leu Ser Ile Val Leu Thr Pro Gln Phe Leu Ser His Asp
  1             5             10             15

Gln Gly Gln Leu Thr Lys Glu Leu Gln Gln His Val Lys Ser Val Thr
      20             25             30

Cys Pro Cys Glu Tyr Leu Arg Lys Val Ser Glu Cys Arg Gln Met Gly
      35             40             45

Pro Gly Ala Leu Glu Gln Phe Pro Gly Leu Ser Cys His Thr Ser His
      50             55             60

Ser Arg
  65

```

<210> 107
 <211> 1418
 <212> DNA
 <213> Homo sapiens

```

<400> 107
cttttgggca gtttgatcac tgatcgagta aggaatgacc tttagattgt gcgacttttg 60
tttttgtttt tttaaatttt tttaaaccaa gaatgatttc tctgtcttc ttctcctcac 120
catcttccca gacggagttc aaaggccact tctcaagcag cttttggcac cttcagcctc 180
agagtggaaat ctttttaaga caggaccctt atgtccagga aaggggaaaa ggaactttgc 240
caatgatagt gaccacagca aaagcaaata ataataatat taataataat aaagagaaat 300
aaaataataa aataaaaaaac aatagcacag cccttgttga ggtcagcagg gaggaggggc 360
tgcccgaggt tgggtccttg cctggatttt gacacagcaa ctctctgtag tgagcacttt 420
gtatgaatcg tggacttcct gttctcaagg cgcagggtatt tattctgtat ctgtctagag 480

```

cacacaccaa aatccaacct tctaataaac atgatggcgc agtcccactc cctgcctcgc 540
 ctgttcccct atccccccca ggccctgggat cttcaggcgt cgggtgtgggg aggggcccct 600
 gccctccttg ccttgatttt gctccccctg gtccagctgg ttccaggcct gtgaatgtca 660
 gttcgtcggg cactgactcc gtctgtctct ggccctgggt tcatttgaca aatatttgcc 720
 cagggcctcc cagggccagc cccatgccac ctgggccccg gcattctctt gaggttctgc 780
 caatgtgctc ttagctgagg acgaaggagg aacacctttc tatgagtctt gcaaagttta 840
 cctccttcag gccacaaata tttgagtgc cactacgtgc caggcactgt gcagggctgc 900
 aggcataagag acagaatgta atctagctgg gccttgacc ccatagggag aggggaccac 960
 tcagggtccat acttcccttg gacttggggc ttggccttg ggaggggtgg aggtggggtg 1020
 gcaagatgaa aaagacatcc tgccccatc cacttcggca gagcttctca aagtctcaag 1080
 catgtcttgg gagcttggtta aaagggtga ttcttgctg tggctcacgc ctgtaatcct 1140
 gacatttttg gagggcaagg caaattgcct gagctcaggg gtttgagacc agcctgggca 1200
 acatgtcgga accctgtttc taaaaaaat acaagaatta gttgggcgtg gtggggcaca 1260
 ccacacctgt ggtcccagct actctgggac tgaggtggga gaactgctg agcctgggag 1320
 gcagaggttg cagtaggtct agatcaggtc actgcactcc agcctgtgca acaaaacaac 1380
 agagcaggac cctgtctcaa aaaaaaaaaa aaaaaaaa 1418

<210> 108

<211> 123

<212> PRT

<213> Homo sapiens

<400> 108

Met Asn Arg Gly Leu Pro Val Leu Lys Ala Gln Val Phe Ile Leu Tyr
 1 5 10 15

Leu Ser Arg Ala His Thr Lys Ile Gln Pro Ser Asn Lys His Asp Gly
 20 25 30

Ala Val Pro Leu Pro Ala Ser Pro Val Pro Leu Ser Pro Pro Gly Leu
 35 40 45

Gly Ser Ser Gly Val Gly Val Gly Arg Gly Pro Cys Pro Pro Cys Leu
 50 55 60

Asp Phe Ala Pro Leu Gly Pro Ala Gly Ser Arg Pro Val Asn Val Ser
 65 70 75 80

Ser Ser Gly Thr Asp Ser Val Cys Ser Trp Pro Trp Val His Leu Thr
 85 90 95

Asn Ile Cys Pro Gly Pro Pro Arg Pro Ser Pro Met Pro Pro Gly Pro
 100 105 110

Arg His Leu Phe Glu Val Leu Pro Met Cys Ser
 115 120

<210> 109

<211> 1199

<212> DNA

<213> Homo sapiens

<400> 109

gtcggttggc gaggtcactg caggctcagag gtcacgagat caaggatctg gaaccctgag 60
 cctcgaagcg gaggatccct gtgtcccagc cgggcatggc cgacccccac cagcttttcg 120
 atgacacaag ttcagcccag agccggggct atggggccca gcgggcacct ggtggcctga 180
 gttatcctgc agcctctccc acgccccatg cagccttcct ggctgacctg gtgtccaaca 240
 tggccatggc ctatgggagc agcctggccg cgcagggcaa ggagctggtg gataagaaca 300
 tcgaccgctt catccccatc accaagctca agtattactt tgctgtggac accatgtatg 360

tgggcagaaa gctgggcctg ctgttcttcc cctacctaca ccaggactgg gaagtgcagt 420
 accaacagga caccocggtg gcccccgct ttgacgtcaa tgccccggac ctctacattc 480
 cagcaatggc tttcatcacc tacgttttgg tggctggtct tgcgctgggg acccaggata 540
 ggttctcccc agacctctctg gggctgcaag cgagctcagc cctggcctgg ctgaccctgg 600
 aggtgctggc catctctctc agcctctatc tggctactgt caacaccgac ctcaccacca 660
 tcgacctggt ggccttcttg ggctacaaat atgtcgggat gattggcggg gtcctcatgg 720
 gcctgctctt cgggaagatt ggctactacc tgggtgctggg ctgggtgctgc gtagccatct 780
 ttgtgttcat gatccggacg ctgcggtgga agatcttggc agacgcagca gctgaggggg 840
 tcccgtgctg tggggcccg aaccagctgc gcatgtacct gaccatggcg gtggcggcgg 900
 cgcagcctat gctcatgtac tggctcacct tccacctggt gcggtgagcg cgcccgtga 960
 acctcccgct gctgctgctg ctgctggggg ccactgtggc cgccgaactc atctcctgcc 1020
 tgcaggcccc aaggtccacc ctgtctggcc acaggcaccg cctccatccc atgtcccgcc 1080
 cagccccgcc cccaacccaa ggtgctgaga gatctccagc tgcacaggcc accgccccag 1140
 ggcgtggcgg ctgttacaga aacaataaac cctgatgggc atggaaaaaa aaaaaaaaaa 1199

<210> 110

<211> 283

<212> PRT

<213> Homo sapiens

<400> 110

Met Ala Asp Pro His Gln Leu Phe Asp Asp Thr Ser Ser Ala Gln Ser
 1 5 10 15

Arg Gly Tyr Gly Ala Gln Arg Ala Pro Gly Gly Leu Ser Tyr Pro Ala
 20 25 30

Ala Ser Pro Thr Pro His Ala Ala Phe Leu Ala Asp Pro Val Ser Asn
 35 40 45

Met Ala Met Ala Tyr Gly Ser Ser Leu Ala Ala Gln Gly Lys Glu Leu
 50 55 60

Val Asp Lys Asn Ile Asp Arg Phe Ile Pro Ile Thr Lys Leu Lys Tyr
 65 70 75 80

Tyr Phe Ala Val Asp Thr Met Tyr Val Gly Arg Lys Leu Gly Leu Leu
 85 90 95

Phe Phe Pro Tyr Leu His Gln Asp Trp Glu Val Gln Tyr Gln Gln Asp
 100 105 110

Thr Pro Val Ala Pro Arg Phe Asp Val Asn Ala Pro Asp Leu Tyr Ile
 115 120 125

Pro Ala Met Ala Phe Ile Thr Tyr Val Leu Val Ala Gly Leu Ala Leu
 130 135 140

Gly Thr Gln Asp Arg Phe Ser Pro Asp Leu Leu Gly Leu Gln Ala Ser
 145 150 155 160

Ser Ala Leu Ala Trp Leu Thr Leu Glu Val Leu Ala Ile Leu Leu Ser
 165 170 175

Leu Tyr Leu Val Thr Val Asn Thr Asp Leu Thr Thr Ile Asp Leu Val
 180 185 190

Ala Phe Leu Gly Tyr Lys Tyr Val Gly Met Ile Gly Gly Val Leu Met
 195 200 205

Gly Leu Leu Phe Gly Lys Ile Gly Tyr Tyr Leu Val Leu Gly Trp Cys
 210 215 220

Cys Val Ala Ile Phe Val Phe Met Ile Arg Thr Leu Arg Leu Lys Ile
 225 230 235 240

Leu Ala Asp Ala Ala Ala Glu Gly Val Pro Val Arg Gly Ala Arg Asn
 245 250 255

Gln Leu Arg Met Tyr Leu Thr Met Ala Val Ala Ala Ala Gln Pro Met
 260 265 270

Leu Met Tyr Trp Leu Thr Phe His Leu Val Arg
 275 280

<210> 111
 <211> 2024
 <212> DNA
 <213> Homo sapiens

<400> 111
 gatatccttaa gcccggttac gtcgacaaaa tttgctaagt taatccttct gtatttttgt 60
 ctccctagagc tgcttatcat ccagactttc caacagttct gacagcttta gaaatagata 120
 atgcggttgt ggcaaatagc ctaattgaca tgagaggcat agagacagtg ctactaatca 180
 aaaataattc tgtagctcgt gcagtaatgc agtcccaaaa gccaccctaaa aattgttagag 240
 aagcttttac tgctgatgtt gatcaagttt ttgcaggacg ttattattca tctgaaaata 300
 caagacctaa gttcctaagc agagatgttg attctgaaat aagtgaactg gagaatgagg 360
 ttgaaaataa gacggcccag atattaaatc ttcagcaaca tttatctgcc cttgaaaaag 420
 atattaaaca caatgaggaa cttcttaaaa ggtgccaaact acattataaa gaactaaaga 480
 tgaataaag aaaaaatatt tctgaaattc gggaacttga gaacatagaa gaacaccagt 540
 ctgtagatat tgcaactttg gaagatgaag ctcaggaaaa taaaagcaaa atgaaaatgg 600
 ttgaggaaca tatggagcaa caaaaagaaa atatggagca tcttaaaagt ctgaaaatag 660
 aagcagaaaa taagtatgat gcaattaaat tcaaaattaa tcaactatcg gagctagcag 720
 acccacttaa ggatgaatta aaccttgctg attctgaagt ggataaccaa aaacgaggga 780
 aacgacatta tgaagaaaaa caaaaagaac acttggtatc cttaataaaa aagaacagag 840
 aactggatat gaaagagaaa gaactagagg agaaaatgtc acaagcaaga caaatctgcc 900
 cagagcgtat agaagtagaa aaatctgcat caattytgga caaagaaatt aatcgattaa 960
 ggcagaagat acaggcagaa catgctagtc atggagatcg agaggaaata atgaggcagt 1020
 accaagaagc aagagagacc tatcttgatc tggatagtaa agtgaggact ttaaaaaagt 1080
 ttattaaatt actgggagaa atcatggagc acagattcaa gacatatcaa caatttagaa 1140
 ggtgtttgac tttacgatgc aaattatact ttgacaactt actatctcag cgggcctatt 1200
 gtgaaaaaat gaattttgac cacaagaatg aaactctaag tatatcagtt cagcctggag 1260
 aaggaaataa agctgctttc aatgacatga gagcctgtgc tggagggtgaa cgttctttct 1320
 ccacagtgtg ttttattctt tccctgtggt ccatcgaga atctcctttc agatgcctgg 1380
 atgaatttga tgtctacatg gatattggtt ataggagaat tgccatggac ttgatactga 1440
 agatggcaga tccccagct tttagacagt ttatcttgct cacacctcaa agcatgagtt 1500
 cacttccatc cagtaaaactg ataagaattc tccgaatgtc tgatcctgaa agaggacaaa 1560
 ctacattgcc tttcagacct gtgactcaag aagaagatga tgaccaaagg tgatttgtaa 1620
 cttacatgc cttgtcctga tgttgaagga tttgtgaagg gaaaaaaat tctggactct 1680
 ttgatataat aaaatgagac tggaggcatt ctgaaatgaa agaaactcct ttatatatcc 1740
 aaccacaatc aaacatataa ataagcctgg aaaaccaact acaaccagca atttaagatt 1800
 actattactt taagaaaatc aatttcatag tatttggtttt aaatcttttt aagttttttt 1860
 aatacgatct atttttatg gttctttttc agaagtaaaa ttttgtacat atatacatgt 1920
 acatatctgt ttagttttggg ttcattttcta taacattttg taagaaaaata aaagtttgag 1980
 cacctgatta aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaa 2024

<210> 112
 <211> 487
 <212> PRT

<213> Homo sapiens

<400> 112

Met Arg Gly Ile Glu Thr Val Leu Leu Ile Lys Asn Asn Ser Val Ala
1 5 10 15
Arg Ala Val Met Gln Ser Gln Lys Pro Pro Lys Asn Cys Arg Glu Ala
20 25 30
Phe Thr Ala Asp Gly Asp Gln Val Phe Ala Gly Arg Tyr Tyr Ser Ser
35 40 45
Glu Asn Thr Arg Pro Lys Phe Leu Ser Arg Asp Val Asp Ser Glu Ile
50 55 60
Ser Asp Leu Glu Asn Glu Val Glu Asn Lys Thr Ala Gln Ile Leu Asn
65 70 75 80
Leu Gln Gln His Leu Ser Ala Leu Glu Lys Asp Ile Lys His Asn Glu
85 90 95
Glu Leu Leu Lys Arg Cys Gln Leu His Tyr Lys Glu Leu Lys Met Lys
100 105 110
Ile Arg Lys Asn Ile Ser Glu Ile Arg Glu Leu Glu Asn Ile Glu Glu
115 120 125
His Gln Ser Val Asp Ile Ala Thr Leu Glu Asp Glu Ala Gln Glu Asn
130 135 140
Lys Ser Lys Met Lys Met Val Glu Glu His Met Glu Gln Gln Lys Glu
145 150 155 160
Asn Met Glu His Leu Lys Ser Leu Lys Ile Glu Ala Glu Asn Lys Tyr
165 170 175
Asp Ala Ile Lys Phe Lys Ile Asn Gln Leu Ser Glu Leu Ala Asp Pro
180 185 190
Leu Lys Asp Glu Leu Asn Leu Ala Asp Ser Glu Val Asp Asn Gln Lys
195 200 205
Arg Gly Lys Arg His Tyr Glu Glu Lys Gln Lys Glu His Leu Asp Thr
210 215 220
Leu Asn Lys Lys Lys Arg Glu Leu Asp Met Lys Glu Lys Glu Leu Glu
225 230 235 240
Glu Lys Met Ser Gln Ala Arg Gln Ile Cys Pro Glu Arg Ile Glu Val
245 250 255
Glu Lys Ser Ala Ser Ile Leu Asp Lys Glu Ile Asn Arg Leu Arg Gln
260 265 270
Lys Ile Gln Ala Glu His Ala Ser His Gly Asp Arg Glu Glu Ile Met
275 280 285
Arg Gln Tyr Gln Glu Ala Arg Glu Thr Tyr Leu Asp Leu Asp Ser Lys
290 295 300

Val Arg Thr Leu Lys Lys Phe Ile Lys Leu Leu Gly Glu Ile Met Glu
 305 310 315 320
 His Arg Phe Lys Thr Tyr¹ Gln Gln Phe Arg Arg Cys Leu Thr Leu Arg
 325 330 335
 Cys Lys Leu Tyr Phe Asp Asn Leu Leu Ser Gln Arg Ala Tyr Cys Gly
 340 345 350
 Lys Met Asn Phe Asp His Lys Asn Glu Thr Leu Ser Ile Ser Val Gln
 355 360 365
 Pro Gly Glu Gly Asn Lys Ala Ala Phe Asn Asp Met Arg Ala Leu Ser
 370 375 380
 Gly Gly Glu Arg Ser Phe Ser Thr Val Cys Phe Ile Leu Ser Leu Trp
 385 390 395 400
 Ser Ile Ala Glu Ser Pro Phe Arg Cys Leu Asp Glu Phe Asp Val Tyr
 405 410 415
 Met Asp Met Val Asn Arg Arg Ile Ala Met Asp Leu Ile Leu Lys Met
 420 425 430
 Ala Asp Ser Gln Arg Phe Arg Gln Phe Ile Leu Leu Thr Pro Gln Ser
 435 440 445
 Met Ser Ser Leu Pro Ser Ser Lys Leu Ile Arg Ile Leu Arg Met Ser
 450 455 460
 Asp Pro Glu Arg Gly Gln Thr Thr Leu Pro Phe Arg Pro Val Thr Gln
 465 470 475 480
 Glu Glu Asp Asp Asp Gln Arg
 485

<210> 113
 <211> 1424
 <212> DNA
 <213> Homo sapiens'

<400> 113
 ggagcaagaa gggcgccgcg gcgtgcggcc cgcgcagccc ccggagccat gggcaagtgc 60
 agcgggcgct gcacgctggt cgccttctgc tgcctgcagc tggtaggctgc gctggagcgg 120
 cagatctttg acttctctgg ctaccagtgg gctcccatcc tagccaactt cctgcacatc 180
 atggcagtca tcttgggcat ctttggcacc gtgcagtacc gctcccggtg cctcatcctg 240
 tatgcagcct ggctggtgct ctgggttggc tggaaatgcat ttatcatctg cttctacttg 300
 gaggttggac agctgtccca ggaccgggac ttcacatga ccttcaacac atccctgcac 360
 cgctcctggt ggatggagaa tgggccaggc tgcctggtga cacctgttct gaactcccgc 420
 ctggctcttg aggaccacca tgcacatctc gtcactggct gcctgcttga ctaccctac 480
 attgaagccc tcagcagcgc cctgcagatc ttctggcac tgttcggcct cgtgttcgcc 540
 tgctacgtga gcaaagtgtt cctggaggag gaggacagct ttgacttcat cggcggcttt 600
 gactcctacg gataccaggc gccccagaag acgtcgcatc tacagctgca gcctctgtac 660
 acgtcggggt agcctctgcc ccgcgcccac cccggcgccct cgccctgggc tgaccgcagc 720
 tgccgcgagc tcggggccaag gcgcaggcgt gtcccccctg tggcccgcgc gctcactgca 780
 gcctgtgccc aaccccgcgt ctgcacatctg agatgcggac ttggacgtgg acttggactt 840
 ggacttggat ttgagcttgg ctcttcgcag cccggacttc ggaggagtgg ggccggggcg 900
 gggaggggca ccacggcttt tttgtttttt gttgtttgt ttttaatctc agccttggcg 960
 tgagctgggg ccttctctc ttctccagcc tctcccttc actcttcacc cagcatcctg 1020

cccccctgtc caaaaacagc aggacatcag acccatccca tcccaccaca ctcaactcacc 1080
 agctctgggg aaagctactg tgaactagga gcaggattcc tgggttctaa tgcaggtcc 1140
 atcactgact gtgacgtcta gcaaagccct tgccctctct gagcctcggt ttccgcacct 1200
 caagtaatta atcccttagc aaatggactc tttcagactt ctcatttaac tcaattccct 1260
 gagctagact gggattaaaa ttctcatttt gcagtacatt aaaactgagg ccagagatg 1320
 tgatttgctt gaggccacac agctagattt ttggtggaag tgggccttga acacagtgtg 1380
 ctttctgcag tttctgactg taaaaaaaaa aaaaaaaaaa aaaa 1424

<210> 114
 <211> 207
 <212> PRT
 <213> Homo sapiens

<400> 114
 Met Gly Lys Cys Ser Gly Arg Cys Thr Leu Val Ala Phe Cys Cys Leu
 1 5 10 15
 Gln Leu Val Ala Ala Leu Glu Arg Gln Ile Phe Asp Phe Leu Gly Tyr
 20 25 30
 Gln Trp Ala Pro Ile Leu Ala Asn Phe Leu His Ile Met Ala Val Ile
 35 40 45
 Leu Gly Ile Phe Gly Thr Val Gln Tyr Arg Ser Arg Tyr Leu Ile Leu
 50 55 60
 Tyr Ala Ala Trp Leu Val Leu Trp Val Gly Trp Asn Ala Phe Ile Ile
 65 70 75 80
 Cys Phe Tyr Leu Glu Val Gly Gln Leu Ser Gln Asp Arg Asp Phe Ile
 85 90 95
 Met Thr Phe Asn Thr Ser Leu His Arg Ser Trp Trp Met Glu Asn Gly
 100 105 110
 Pro Gly Cys Leu Val Thr Pro Val Leu Asn Ser Arg Leu Ala Leu Glu
 115 120 125
 Asp His His Val Ile Ser Val Thr Gly Cys Leu Leu Asp Tyr Pro Tyr
 130 135 140
 Ile Glu Ala Leu Ser Ser Ala Leu Gln Ile Phe Leu Ala Leu Phe Gly
 145 150 155 160
 Phe Val Phe Ala Cys Tyr Val Ser Lys Val Phe Leu Glu Glu Glu Asp
 165 170 175
 Ser Phe Asp Phe Ile Gly Gly Phe Asp Ser Tyr Gly Tyr Gln Ala Pro
 180 185 190
 Gln Lys Thr Ser His Leu Gln Leu Gln Pro Leu Tyr Thr Ser Gly
 195 200 205

<210> 115
 <211> 843
 <212> DNA
 <213> Homo sapiens

<400> 115


```

ccagaatctg gcacgctgac ggggacctag ggacagacga ccgcacaaca cgccacgttg 60
caggcgetgc caggccgggt gcctcaccta gctccttcac gtattcatca aagcctttgc 120
tgtccaccag ggcctatctt ccttcacagt gctgaactgt ggccatgggt acgcgacggc 180
ctctcgggag cctcctgcaa gcagggaact gcccggcgag cccacgcct catggacgcc 240
ggcgctgca cgtttcggcg cctctgcagg ccaggaagc cagaggggtc acctggaggg 300
ctggccccgc ctctcctgca cccctccgtt tgacaacata tccaccgcgc tttttccttt 360
caaaaataccc ggaccaatcg attagccctc gccggactcg gactgcagga agtgattgat 420
cggtggtttg gtttattgat tcattaacta cggtgccctc ctgaccttct gctcctcgcc 480
agcgcacaa ctcacaatcc acaccctcct aagagaacct gctctcgcca tccgcaggtc 540
tccctggccc aatagtgggg atatacctga gttgagctag aggattttat cctgtttggg 600
atgggggagc tctcgggaag tgtggtttct aaactaaaag actgcaggaa gtgtcaactt 660
tagtgactgt cattgccatt caagaatgtt tgattagttt atattccctt cgtagtgcac 720
ccttcaccgt ttctctcag acaccagcgg gtttctctc agacaccagc gggttccctc 780
tttctcttga actataataa taccctacac atgtgcgtaa aaaaaaaaaa aaaaaaaaaa 840
aaa
843

```

<210> 116
 <211> 84
 <212> PRT
 <213> Homo sapiens

```

<400> 116
Met Gly Thr Arg Arg Pro Leu Gly Arg Leu Leu Gln Ala Gly Thr Arg
  1             5             10             15

Pro Ala Arg Pro Thr Pro His Gly Arg Arg Arg Leu His Val Ser Ala
          20             25             30

Pro Leu Gln Ala Gln Glu Ala Arg Gly Val Thr Trp Arg Pro Gly Pro
          35             40             45

Ala Ser Pro Ala Pro Leu Arg Leu Thr Thr Tyr Pro Pro Pro Phe Phe
          50             55             60

Leu Ser Lys Tyr Pro Asp Gln Ser Ile Ser Pro Arg Arg Thr Arg Thr
          65             70             75             80

Ala Gly Ser Asp

```

<210> 117
 <211> 2232
 <212> DNA
 <213> Homo sapiens

<220>
 <221> unsure
 <222> (225)

```

<400> 117
ataagctggg aggttctctg cctgtctcct gctctctgct gagttgcttg gggcagggat 60
ggtgaaaaga gccccagga agtctctgga agtgaggagg gtccttgggc actaactgtg 120
tgaccttggg caagtgactc cccatctctg ggctcagga ggttgggcag gtccgggcca 180
aggctgaaat actgagtgga ggaatgggtg gggaggagga ggaancgcct aatacccca 240
accctcatct tccaacca cactcatcc aaattcttgc tctgggggtt ctgatccatg 300
ggcaggtcac ggtgtgggag gcggaggctc cactccaggg aggatttga gctccacaga 360
gtacacctgg ggcaaaagga gcctgggctg gggaggccag gactgggaag gttctgggac 420
tctctccctc accccggact cctcccaga gcctggggct cagcaactct catgaccggg 480
cactgggtgaa gcgcaagttg aaggagatgg cagcagctgc cgagaaggag cgcaaggccc 540

```

```

aggagaaggc tgcgcggcag cgggagaagc tccggcgccg agagcaggag gccagaaga 600
gctaggggag ggtgcacagg cgctggcacc cggcaggggc agccactggc tccgcgggca 660
caggcctcac cagggaggct ggacctgggc gctgcacttg ggctagcctg gtcccacgct 720
ctcagggggg acatgctctc tcttaccctg tcaacttggtc tagaccaga gacccagaa 780
aggagagacc cagggagagg gcctagtaat aaatcctatt ttgaggactt gtttggcaca 840
gagttcctgg gggaggagca gatgaagggg agagggcaga gaggccaggg ctgaggcaag 900
tctgggagcc tgggtcaggc tgtcccattg ccctcaggcc atcgtggggc tggggtggag 960
gggagctagg aggcctgcct gcctgcttgc ctgccagagg ccctgaggcc gggccccagg 1020
gctcagagct gggctgggca tttcagcagg agcccatgtg ggagcggctc ctctccactc 1080
ttccaggggg ctgtgtgtg ggagagctct gtccctgctcc cccaagaggc cagtgggagc 1140
tgcagcaagt cgcactcagg gtagactccc agccaaactc ctcaacagga gcgcagagaa 1200
agcagcctgg ggcgagtgc gtctttgcca ggactcaaga ggggaggatg aacatcccct 1260
tctccctctc cctcctctg tctgtgggt cccagggggc gagatgacac cacacaggtc 1320
tgctctcag ggccttca agacctggc tttgacccat tctccaagcc aggactccct 1380
tcaattcctg ctgcttctc agagggcacc taagtccctt ttgggagctg agcaaacagg 1440
aactgatagg gacagaggac accacttcca ccagccaagg cctaggagct gctgacctg 1500
tcagccctca cccagccag gcagagaggc aaaacctggg ggtccccggc agctacgaga 1560
ttggaaggt tcatcagccc tccccatct gcccaggca ttgtcaggga atcagtggg 1620
tcagaactgg caggcgggtc aagctctgct tccctgggac aactgaggg ctggggccag 1680
ctccctgat ggggtggag tttaccagca gcctggggac agcatgtgtc ctttttagga 1740
aatgtcctt gaggaaagt tcatgtgtg cgctggtcag cagctagtcc cgcttccagg 1800
acactggtca gagttaccga tgaggcctgg gggctcccgc ttggaacccc ctccagctcc 1860
tcccatctgc ccagacagag cggcagatgg caccaatgca tgctggctcc ctcattcctg 1920
cccaggggct gtggcttacg gccagcacc tgtacctggg actcagccct tatccccct 1980
ctgctatctg tgctgggaga ggggcttcgg agggaaacag atatgaggac actggcacca 2040
tctgggctg gtggcagggc catgggaggt tggaaggcac ccacatcctt aaagccatca 2100
gtagctctag tgggtgcca cctgcatgtg aaggggaggc agttctcaat ttatttcaat 2160
aaatccttat gatgtgccag tgaccagaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 2220
aaaaaaaaaa aa

```

<210> 118
 <211> 133
 <212> PRT
 <213> Homo sapiens

<220>
 <221> UNSURE
 <222> (8)

<400> 118
 Met Val Gly Glu Glu Glu Xaa Pro Asn Thr Pro Asn Pro His Leu
 1 5 10 15
 Ser Gln Pro His Ser Phe Gln Ile Leu Ala Leu Gly Val Leu Ile His
 20 25 30
 Gly Gln Val Thr Val Trp Glu Ala Glu Ala Pro Leu Gln Gly Gly Phe
 35 40 45
 Gly Ala Pro Gln Ser Thr Pro Gly Ala Lys Gly Ala Trp Ala Trp Glu
 50 55 60
 Ala Arg Thr Gly Lys Val Leu Gly Leu Ser Pro Ser Pro Arg Thr Pro
 65 70 75 80
 Pro Gln Ser Leu Gly Leu Ser Asn Ser His Asp Arg Ala Leu Val Lys
 85 90 95
 Arg Lys Leu Lys Glu Met Ala Ala Ala Glu Lys Glu Arg Lys Ala
 100 105 110

Gln Glu Lys Ala Ala Arg Gln Arg Glu Lys Leu Arg Arg Arg Glu Gln
 115 120 125

Glu Ala Lys Lys Ser
 130

<210> 119
 <211> 4086
 <212> DNA
 <213> Homo sapiens

<400> 119
 aaaatagcgg gtactgtggt accggaggct ggcggtacca gtgtggattc caagtgatca 60
 tcacaggtag ataatagtag cttccttggt cgtctcgtcc cactgggtac caggcgaatc 120
 ctactgggta ggtcggttac gcggcatatg tggggtagtg ttggtagcca ggtatttgag 180
 gtacgaattc agtgtacgtt gccagggtgt cttgggtctt taaatttggg atacataggc 240
 gaggatactg attctggata gtaaaattgt ttggagctcg gcaatcataa gaaacttgca 300
 gtttccaccc cctcttcacc tggagaactt gggctccatt aggtgcaatc gttggagtaa 360
 ttagcccatc ttttacattt cttggcaca aatctcgaag agctgccatt tcagggttcgg 420
 acagtgaata cacatgtcca ctgggaatac tgtgtgctcc aggtatcatt tctatgtgag 480
 ggtcaaccag gcggtgatct gggtagacgt gctcatctac tggagtgtac acattctgga 540
 catagtaata cctcactggt tggtaaactc tgtatccatc tactggataa tagagtggcg 600
 gttgtggtgc tgggtggtgg agcgatggtg gtattggaga atacatccgg cagtggtagc 660
 ggcatgattc agaatacaag acgatagatc gagtgctcca tgtgatattg ggatcatgtg 720
 tgctcagcca gcgaacccct aggacgacag ggaagaatgg agactgagtc acatcaaatg 780
 acagcacctc tcggtgatct ccaggtcaa ctatcaggtc gtgagtttcg tggacaactg 840
 ggcccgatgc tatggggcgc ccatcaattg cttccacaag tattggccag tccttgattc 900
 ttagaggaaat tccattttga gcaacatatt cgtgatcaat gaagttgcca gaagcaccag 960
 aatcgatcat ggctcggacg aacagggtgt gtctgcccg aagatgaatc tggagcatca 1020
 cttgcaagtg tggagatgag gcatcatctt gtggggacct tattattctt ggcccggctc 1080
 ctgaaggctc ctctacacgc gggccgggga gtttcccgcc ggccaagact ttgaggcctt 1140
 ggcaggacaa ttgtcagcgt agtgacctcc tgttccacag tagaggcaca ggttcagctt 1200
 tctgcgtctt tctttttctt cctgcgtcag gcgcatgcgg gcacctcca ccggctcggg 1260
 tggatctacc tgggtggtgc ttgcaatgtg aggcaacacc agcggccggg gtggcgagcg 1320
 tggcttgcca gctgcagcag ccctggccag ccttctctca atgtgaatgc actgccaat 1380
 cagagcagac agcgacttgg cgacctcgag caacattaac tgaggaaaaa attgaaaaag 1440
 gggcgccctt gcttgggggc ttctatttgt ggaactgtta tggaaaaggag ccccatccat 1500
 tgcttctctc ttgaatggca aatgccttta tgatccctat aacttgtccc attatgttta 1560
 gacccttggt ggtcagaagg gttctattha gggcagtgct ccctgcccct ccttgtctc 1620
 caaaaatttt gggaggcact caagtggatg tcatggggtc agcacaggca tcaacatccc 1680
 cagagggatg gaaccaagca gcctattgcc caggcattca ctaacaggca gcccacctc 1740
 agcctcatag ctggccgggg agaagaaagg ctattttggg tcccagatct ttttttttt 1800
 ttttgagaca gagtctcgtc ctgtcaccca ggctgaagtg caatggtgag gtctcagctc 1860
 actacaacct ccgcctcccg agttcaagag attctcctgc ctcagcctcc tgagtagctg 1920
 ggactacagg tgcgtaccac caagcctggc taatttttgt gcttttagta gggacgtggt 1980
 ttcaccatgt tgcccagggt ggtctcaaac tcttgggctc atgcagtcg cctacctcag 2040
 cctcccaaag tgctgggatt acaggcatga gccactgcac ccggtctctg tttacaaatt 2100
 tatcaccagc ttcatccctt aaggttataa gctccatgag ggtgggaagt ctgtattgtt 2160
 cacctctgta tcttaagcat ctagaacata gcccggcaca cagtaggtgc tgaagaattg 2220
 aatctgttaa tgtagaaagg atgtttcatc tagctgaagt gtcttgtaga gaataaactc 2280
 tcaataaatg aactgtggac acatggaagg gtgagctaga gctctgctca ggggttgagt 2340
 gctcctcttg tgcccttggt gttgtctggt tacctgaact aattggagtg cgatgcagac 2400
 atagtcatgt agtgagacag cagaactttg ctgtcttggt tgtgagcca catcagggtg 2460
 tctagactgg aggttgtaga tgggtggccc agcctgtctc ttcagcagct cggcttataa 2520
 aaaataacca cctcctatth tggcctcttt ggccgaattc ggccaaagag gcctagcctc 2580
 cgattactaa accccttgcc ccacaaacgt ccacattgac gagcctcttt ttagtaactg 2640
 cttccccgta attccttcag aggttgctgt acccttcgct gatgtgctgc cctcctgtaa 2700
 aacctccaga tgccttccca cgtaatgccc ctttcagatg cttaaagctg agagcttaaa 2760

```

ccacaggtac catggctgac gcttgccagg tttctgctgc agataatcta tgatgggagg 2820
ggcatatttt ttacttcatt actttatgtaa actcttggtc cagaaagctt taatgtgtgt 2880
gggagtgttc tgggtctatt aggtctgtgc gcatgggtgt gggcatttgc ctgtgtccac 2940
cgggtgggtc tcattatgaa atgtatgttt atgtagggtt ttaatggctg aaaatggcaa 3000
agagatgaat agaccacttg gccccatgtg taattgccag gccccttctg tgctcaaatg 3060
agggtgccga gtgaaggcca gcccttcctt tctgtatttg gggcctatct atgccaccag 3120
taattttata agaaatctga atagtcttcc cctttgagtg catttaactc tttagtatct 3180
tctctcttac ctatttgagc ccctctagct acagtctggc ttaaatgaaa ggggaattat 3240
atgcttaaga aaaagtagga cacggttgag gcagtttgct gactgaatac gcgaagaagg 3300
acctgatggg ctcatatgca ccaactgcat cacagtcccc atcgtgatgc aagcttatat 3360
gattcttgag gtaactctac cagatacttc cagatttaga aatgtgtcaa aggaaaaatt 3420
ggtgatactc ttctttccct gccagaaaca gccagatct cctcttaagc ggaaaagaga 3480
ttgaccttct agcagaggca aaggtaaact cctgtaagtt acttctgtta ccaaagggag 3540
gggggagggt tttgtgaatg tatgaggagc ttttgccaga gagatattcg gaggaggggt 3600
gtgcccatac gcacacatat attttcccgc ataaccgtat ccaatgctag catttagagg 3660
aaggcattta gccacaaaaa gtccatccat ctatgctgct tccacagaga aaacattttc 3720
tctttcctcc tcttgaactt acataatate ctcctcccat tccaacctta gaatggagtc 3780
ttctgggggc agctgcaaag cgttctccct aggacagatg gagcctccct ttctcatct 3840
actctgtggg tgggttcagg gccacagagt caacatgagg agttgtgctg gtggtatgtg 3900
tgttggaggc tgggctggct gattcacagt gacgaggatg tcaataataa caagaatgag 3960
aatgatggtg cctaataaag actttttttc ccaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 4020
aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 4080
aaaaaa

```

```

<210> 120
<211> 102
<212> PRT
<213> Homo sapiens

```

```

<400> 120
Met Ser Thr Gly Asn Thr Val Cys Ser Arg Tyr His Phe Tyr Val Arg
  1             5             10            15

Val Asn Gln Ala Val Ile Trp Val Asp Val Leu Ile Tyr Trp Ser Val
          20            25            30

His Ile Leu Asp Ile Val Ile Pro His Trp Leu Val Asn Ser Val Ser
      35             40             45

Ile Tyr Trp Ile Ile Glu Trp Arg Leu Trp Cys Trp Trp Trp Glu Arg
      50             55             60

Trp Trp Tyr Trp Arg Ile His Pro Ala Val Val Ala Ala Val Phe Arg
      65             70             75            80

Ile Lys Asp Asp Arg Ser Ser Ala Pro Cys Asp Ile Gly Ile Met Cys
          85            90            95

Ala Gln Pro Ala Asn Pro
      100

```

```

<210> 121
<211> 1293
<212> DNA
<213> Homo sapiens

```

```

<400> 121
ggtccagaag aaatgtggct tcagctctgc tgctactgtg cctcccttct cctgcccac 60
tcagcccaca aaataggctg gacactcaaa aaacgttgcg tttatctacc ttttagagag 120

```

ggtgaatagc agagaactgg aggtgggaat ggtaaggaac tcccagcagg gtagtggagg 180
 gaatgggctg acgcatctaa ggctgatgcc aggtctgctc cctatctggg tggcctcagc 240
 aaatgacgtc cagcacatcc aggggcaggc tcaagggaga acagcccca aagctaagat 300
 cctgccaaagc taaatacagt agttctaattg aaatgtgaga ggctataatc ccatttggga 360
 aattcctaaa aagtcattgag gcaggggatt ggtttatgtt attatcatga cctgagagtc 420
 atggctcaga gccaaatgtt caggattgaa ttcaacagca tttaaagtgc tttagagcag 480
 gatggaaata tgtagcaat gcctgcagag tgccaagtaa acgcaaaagc caatgagatc 540
 ataaaggaag ttgtagcta acctagtggg gtcgccaact tccttctact ctaataatta 600
 aaataaaaaa aatacttggg aggttaactgg aataaagggt ctaaaatcaa aaccctctga 660
 aggggtgaaaa ctgggagcct cctgttccca tagtaaccac agcactcagg gcactgtctc 720
 ccagcgctgg agtactgtct tatgaccaga gatcctaagc aacctctgct catctgagtt 780
 gtccaccata ttgtgggcat gagtcttga caatagtaaa tagcacctct gttcccttat 840
 tgggttaaatg attttccaac tctgggaatg tgtagaattc attatggaaa taatgcaata 900
 attcaaatcc ataatttga tactttcatg ttaagtttag gactaatctt gtgtatgctc 960
 cttaagtgat ttgaatcttt aaaaagctta tgattccaat ttgaaatgtg aaattgattt 1020
 tacgtttgtg atttgaagt gaaaggtata agaatttta acttagctca tgaaaagtat 1080
 tagactagat ttactataag tttaattgat tagatttaca agagatgctt aaatatatga 1140
 gaatgttttg tcttaattgg ttataatctt gtcatatcaa tgatttgaag tgctaaaata 1200
 gaaaattaaa tatgataaat tacacaagaa gtttagaatg tttaaaagat tttataaaac 1260
 aaagcctata actaagaaaa aaaaaaaaaa aaa 1293

<210> 122

<211> 54

<212> PRT

<213> Homo sapiens

<400> 122

Met Val Arg Asn Ser Gln Gln Gly Ser Gly Gly Asn Gly Leu Thr His
 1 5 10 15

Leu Arg Leu Met Pro Gly Leu Leu Pro Ile Trp Val Ala Ser Ala Asn
 20 25 30

Asp Val Gln His Ile Gln Gly Gln Ala Gln Gly Arg Thr Ala Pro Lys
 35 40 45

Ala Lys Ile Leu Pro Ser
 50

<210> 123

<211> 2509

<212> DNA

<213> Homo sapiens

<400> 123

gagctgcac gcgggaggcg catggcgggg atggcgctgg cgcgggcctg gaagcagatg 60
 tccctggtct actaccagta cctgctgggc acggcgctct acatgctgga gccctgggag 120
 cggacgggtg tcagctgggt tccattgtgg ggatggcact atacacagga tacgtcttca 180
 tgcccagca catcatggcg atattgcact actttgaaat cgtacaatga ccaagatgcg 240
 accaggatca gaggttcctt gggaagacc caccctacga agttggaatg agaccatcag 300
 atgtgataag aaactcttct agatgtcaac ataaccaacc ttataaagac taaaattcat 360
 gagtagaaca ggaaaatcat cctgactcat gtgttggtgt ctttattttt aattttcaaa 420
 gaggtctctg tatagcagtt ttgtctatt ttaacattgt agtcatttgt actttgatat 480
 cagtattttc ttaacctttg tgactgtttc aatattacc cctgaaagc ttttcttaat 540
 gtaactttga gtacatttta attgcctct atttttaaaa ctcaaatca ttagttgggc 600
 ttactgttc ttgtattgt atggcatata catctgcctg gatattttc tactcttgac 660
 caaagttttg taaagaacaa tataagattt cgggtagggg tatggggagg gaagatattt 720
 tattgagaac tacttaacaa aagatttatc tgtaagcttg aactcaggag tacagtttta 780
 gctatctaga ctctaacagc ttttgcttta aaattattaa agtgtttctt aatgaaaaag 840

```

aaaagatcct gctaaagtta aaataaggaa catttcacct tttaaattatt taattcttat 900
gtggacttat ttccagaaaa ctttggtgat aattccttgag acaaaagggtg gtttaagttagc 960
attattatgt aatgcttata taccatagag tttttaatag aagagaaatc catttcctcc 1020
gagggtcact attaacaatg tacttcctta aatttagttt aatgattgta atgggtgctg 1080
catttgcaca ttgcattaag ttatgatgag acgaattgtt gttaaaaatt atagcaaaaa 1140
gaaatgtaaa cttggttaaa atcctttcac tctttgtatt gtttttttta aggtttttat 1200
tccttaaatg taaaatgact acctaatttt ttgatgtaaa tacattaaat tcaaagagaa 1260
aaaaaatcag ctgatgtagc agtatatctt ttccttgatg gttaaatatt gatctagtat 1320
ttatattgct gaattatttt ctgtggagga ccagataagc agtaagtatg tcttatccta 1380
tatgttttgc aacataaaaa tattgctaata tgaaaagaat taggcaatta tgtgtgttgc 1440
tgggttgttt ttttgttttt tttttttgag acggagtctt gccctgtcgc ccaggatgga 1500
gtgcaacagc atgatctcgg ttcactgcaa cctccatctc ctgggatcaa gtgattctcc 1560
tgctcagcc tcctgaatag ctgggattac aggcacctgc caccatgcct ggctaatttt 1620
ttgtatctgt agtagagacg gggtttctact gtgttgcca ggatggctc aaactcctga 1680
cctcctgac cactgcctc ggctcccaa agtgcgggt ttacaggcgt gagccaccgc 1740
gcccgcccaa aattgaggta ttttttccc tacgttttaa ggactagact tttgaagtat 1800
tttatagtct agaggctcga agtaatatat atgtgtttta tttttttaga gccaatgat 1860
accacaatta gataggagta gtgagaataa tatggaatta cttggtttga agtagttaa 1920
aattggatat gggtatatct gagctgtagt catattatct caagaaaaat aatcaggagga 1980
tttaacataa gatttgttct attaatgccc aaatttggct ttcctctact atccccata 2040
gagaaccact aacaagtgga tgtctaatat tctctgggtg agttgaaggc aggagaagtt 2100
gagaatcatt agtttcaatg agtatccagg tgacctatcc tggccctcta ctcagaaacc 2160
ggcaatttgt cttcactctg agattcatta aattgctgtt gtataactga tggttattat 2220
gaacactgac ctgtgagaca tatggaagat aaagtttggc cttacaggaa atcttgagga 2280
gagtcaaaag agaaatggga gatgtctctt gagagggtgat cagagaagtt tatgctcact 2340
gtctgatgca aatgtctggt ctatttgta gtaataaaca gggaaatcat tttcactttt 2400
tgttaaaaat aaggatttta caagcatacc ttgtagttat tgtgggttca gtttcagacc 2460
actgcaataa agtgaatatc tcaataaaaa aaaaaaaaaa aaaaaaaaaa 2509

```

<210> 124
 <211> 89
 <212> PRT
 <213> Homo sapiens

<400> 124
 Met Ala Gly Met Ala Leu Ala Arg Ala Trp Lys Gln Met Ser Trp Phe
 1 5 10 15
 Tyr Tyr Gln Tyr Leu Leu Val Thr Ala Leu Tyr Met Leu Glu Pro Trp
 20 25 30
 Glu Arg Thr Val Phe Ser Trp Phe Pro Leu Trp Gly Trp His Tyr Thr
 35 40 45
 Gln Asp Thr Ser Ser Cys Pro Ser Thr Ser Trp Arg Tyr Cys Thr Thr
 50 55 60
 Leu Lys Ser Tyr Asn Asp Gln Asp Ala Thr Arg Ile Arg Gly Ser Leu
 65 70 75 80
 Gly Lys Thr His Pro Thr Lys Leu Glu
 85

<210> 125
 <211> 2672
 <212> DNA
 <213> Homo sapiens

<400> 125

```

ggaggagaga agaggaggtg gagaaggctt gggctcgcgc cgtgaagtc ggcttaccgc 60
ctggccgcct cctgacaagc gggagggatc cgcggtggac ccagggaagc ggaggagcct 120
ggcgccacc cctcttctc cacttccctg tactctcatc gctctcggcc tccgacacga 180
aaaggaagca aatgagctga tygaagatct gtttgaaact ttccaagatg agatgggatt 240
ctccaacatg gaagatgatg gccagaaga ggaggagcgt gtggctgagc ctcaagctaa 300
ctttaacacc cctcaagctc tacggtttga ggaactactg gccaacctac taaatgaaca 360
acatcagata gcgaaggaac tatttgaaca gctgaagatg aagaaacctt cagccaaaca 420
gcagaaggag gtagagaagg ttaaacccca gtgtaaggaa gttcatcaga cctgattct 480
ggaccagca caaaggaaga gactccagca gcagatgcag cagcatgttc agctcttgac 540
acaaatccac cttcttgcca cctgcaaccc caatctcaat ccggaggcca gtagcaccag 600
gatatgtctt aaagagctgg gaacctttgc tcaaagctcc atcgcccttc accatcagta 660
caacccaag tttcagacc tggtccaacc ctgtaacttg atgggagcta tgcagctgat 720
tgaagacttc agcacacatg tcagcattga ctgcagccct cataaaactg tcaagaagac 780
tgccaatgaa tttccctgtt tgccaaagca agtggttggt atcctggcca caagcaaggt 840
tttcatgtat ccagagttac ttccagtgtg ttccctgaag gcaaagaatc cccaggataa 900
gatcctcttc acaaggctg aggacaattt gttagcttta ggactgaagc attttgaagg 960
gactgagttt cttaaccctc taatcagcaa gtaccttcta acctgcaaga ctgcccgcga 1020
actgacagtg agaatcaaga acctcaacat gaacagagct cctgacaaca tcattaaatt 1080
ttataagaag accaaacagc tgccagtcct aggaaaatgc tgtgaagaga tccagccaca 1140
tcagtgaag ccacctatag agagagaaga acaccggctc ccattctggt taaaggccag 1200
tctgccatcc atccaggaag aactgcggca catggctgat ggtgctagag aggtaggaaa 1260
tatgactgga accactgaga tcaactcaga tcaaggccta gaaaaagaca actcagagtt 1320
ggggagtga actcggctac cactgctatt gcctaagggt gtagtctga aactgaagcc 1380
agttgccgac cgtttcccca agaaggcttg gagacagaag cgttcatcag tctgaaacc 1440
cctccttacc caaccagcc cctctctcca gccagcttc aacctggga aaacaccagc 1500
ccaatcaact cattcagaag cccctccgag caaatggtg ctccggattc ctacccaat 1560
acagccagcc actgttttac agacagttcc aggtgtccct ccactggggg tcagtggagg 1620
tgagagttt gagtctctg cagcactgcc tgctatgcc cctgaggcca ggacaagctt 1680
cctctgtct gagtcccaga ctttgcctc ttctgcccct gtgcccagg taatgatgcc 1740
ctccctgcc tcttccatgt ttcgaaagcc atatgtgaga cggagaccct caaaaagaag 1800
gggagccagg gcctttcgt gtatcaaacc tgcccctgtt atccaccctg catctgttat 1860
cttactgtt cctgtacca ctgtgaagat tgtgagcctt ggcggtggct gtaacatgat 1920
ccagcctgtc aatgcggtg tggcccagag tccccagact attcccatcg ccacctctt 1980
ggttaaccct acttctctc cctgtccatt gaaccagccc cttgtggcct cctctgtctc 2040
acccttaatt gtttctggca attctgtgaa tcttctata ccaccacc ctgaagataa 2100
ggcccacatg aatgtggaca ttgctgtgct tgtggctgat ggggaaaatg ctttccagg 2160
cctagaaccc aaattagagc cccaggaact atctctctc tctgtactg ttttcccaa 2220
agtggacat agcccagggc ctccaccagt cgataaacag tgccaagaag gattgtcaga 2280
gaacagtgcc tatcgctgga ccgttgtgaa aacagaggag ggaaggcaag ctctggagcc 2340
gctccctcag ggcattccag agtctctaaa caactcttc cctggggatt tagaggaagt 2400
tgtcaagatg gaacctgaag atgctacaga ggaaatcagt ggatttctt gagctaggag 2460
aataagatc tggagactgg gacgctcac ttcgccctcc gattgggtgc gcatagggtg 2520
taaccaatag gaaacccta aagggtactt aaacccaga ttttgcaact ggggctcttg 2580
agcagcttgc tttagcctgc tcccactctg tggaatatac ttttgcctca ataatctgt 2640
gcttttattg cttcaaaaaa aaaaaaaaaa aa 2672

```

<210> 126

<211> 750

<212> PRT

<213> Homo sapiens

<400> 126

Met Glu Asp Leu Phe Glu Thr Phe Gln Asp Glu Met Gly Phe Ser Asn
1 5 10 15

Met Glu Asp Asp Gly Pro Glu Glu Glu Arg Val Ala Glu Pro Gln
20 25 30

Ala Asn Phe Asn Thr Pro Gln Ala Leu Arg Phe Glu Glu Leu Leu Ala
35 40 45

Asn Leu Leu Asn Glu Gln His Gln Ile Ala Lys Glu Leu Phe Glu Gln
 50 55 60
 Leu Lys Met Lys Lys Pro Ser Ala Lys Gln Gln Lys Glu Val Glu Lys
 65 70 75 80
 Val Lys Pro Gln Cys Lys Glu Val His Gln Thr Leu Ile Leu Asp Pro
 85 90 95
 Ala Gln Arg Lys Arg Leu Gln Gln Gln Met Gln Gln His Val Gln Leu
 100 105 110
 Leu Thr Gln Ile His Leu Leu Ala Thr Cys Asn Pro Asn Leu Asn Pro
 115 120 125
 Glu Ala Ser Ser Thr Arg Ile Cys Leu Lys Glu Leu Gly Thr Phe Ala
 130 135 140
 Gln Ser Ser Ile Ala Leu His His Gln Tyr Asn Pro Lys Phe Gln Thr
 145 150 155 160
 Leu Phe Gln Pro Cys Asn Leu Met Gly Ala Met Gln Leu Ile Glu Asp
 165 170 175
 Phe Ser Thr His Val Ser Ile Asp Cys Ser Pro His Lys Thr Val Lys
 180 185 190
 Lys Thr Ala Asn Glu Phe Pro Cys Leu Pro Lys Gln Val Ala Trp Ile
 195 200 205
 Leu Ala Thr Ser Lys Val Phe Met Tyr Pro Glu Leu Leu Pro Val Cys
 210 215 220
 Ser Leu Lys Ala Lys Asn Pro Gln Asp Lys Ile Leu Phe Thr Lys Ala
 225 230 235 240
 Glu Asp Asn Leu Leu Ala Leu Gly Leu Lys His Phe Glu Gly Thr Glu
 245 250 255
 Phe Leu Asn Pro Leu Ile Ser Lys Tyr Leu Leu Thr Cys Lys Thr Ala
 260 265 270
 Arg Gln Leu Thr Val Arg Ile Lys Asn Leu Asn Met Asn Arg Ala Pro
 275 280 285
 Asp Asn Ile Ile Lys Phe Tyr Lys Lys Thr Lys Gln Leu Pro Val Leu
 290 295 300
 Gly Lys Cys Cys Glu Glu Ile Gln Pro His Gln Trp Lys Pro Pro Ile
 305 310 315 320
 Glu Arg Glu Glu His Arg Leu Pro Phe Trp Leu Lys Ala Ser Leu Pro
 325 330 335
 Ser Ile Gln Glu Glu Leu Arg His Met Ala Asp Gly Ala Arg Glu Val
 340 345 350
 Gly Asn Met Thr Gly Thr Thr Glu Ile Asn Ser Asp Gln Gly Leu Glu
 355 360 365

Lys Asp Asn Ser Glu Leu Gly Ser Glu Thr Arg Tyr Pro Leu Leu Leu
 370 375 380
 Pro Lys Gly Val Val Leu Lys Leu Lys Pro Val Ala Asp Arg Phe Pro
 385 390 395 400
 Lys Lys Ala Trp Arg Gln Lys Arg Ser Ser Val Leu Lys Pro Leu Leu
 405 410 415
 Ile Gln Pro Ser Pro Ser Leu Gln Pro Ser Phe Asn Pro Gly Lys Thr
 420 425 430
 Pro Ala Gln Ser Thr His Ser Glu Ala Pro Pro Ser Lys Met Val Leu
 435 440 445
 Arg Ile Pro His Pro Ile Gln Pro Ala Thr Val Leu Gln Thr Val Pro
 450 455 460
 Gly Val Pro Pro Leu Gly Val Ser Gly Gly Glu Ser Phe Glu Ser Pro
 465 470 475 480
 Ala Ala Leu Pro Ala Met Pro Pro Glu Ala Arg Thr Ser Phe Pro Leu
 485 490 495
 Ser Glu Ser Gln Thr Leu Leu Ser Ser Ala Pro Val Pro Lys Val Met
 500 505 510
 Met Pro Ser Pro Ala Ser Ser Met Phe Arg Lys Pro Tyr Val Arg Arg
 515 520 525
 Arg Pro Ser Lys Arg Arg Gly Ala Arg Ala Phe Arg Cys Ile Lys Pro
 530 535 540
 Ala Pro Val Ile His Pro Ala Ser Val Ile Phe Thr Val Pro Ala Thr
 545 550 555 560
 Thr Val Lys Ile Val Ser Leu Gly Gly Gly Cys Asn Met Ile Gln Pro
 565 570 575
 Val Asn Ala Ala Val Ala Gln Ser Pro Gln Thr Ile Pro Ile Ala Thr
 580 585 590
 Leu Leu Val Asn Pro Thr Ser Phe Pro Cys Pro Leu Asn Gln Pro Leu
 595 600 605
 Val Ala Ser Ser Val Ser Pro Leu Ile Val Ser Gly Asn Ser Val Asn
 610 615 620
 Leu Pro Ile Pro Ser Thr Pro Glu Asp Lys Ala His Met Asn Val Asp
 625 630 635 640
 Ile Ala Cys Ala Val Ala Asp Gly Glu Asn Ala Phe Gln Gly Leu Glu
 645 650 655
 Pro Lys Leu Glu Pro Gln Glu Leu Ser Pro Leu Ser Ala Thr Val Phe
 660 665 670
 Pro Lys Val Glu His Ser Pro Gly Pro Pro Pro Val Asp Lys Gln Cys
 675 680 685

Gln Glu Gly Leu Ser Glu Asn Ser Ala Tyr Arg Trp Thr Val Val Lys
690 695 700

Thr Glu Glu Gly Arg Gln Ala Leu Glu Pro Leu Pro Gln Gly Ile Gln
705 710 715 720

Glu Ser Leu Asn Asn Ser Ser Pro Gly Asp Leu Glu Glu Val Val Lys
725 730 735

Met Glu Pro Glu Asp Ala Thr Glu Glu Ile Ser Gly Phe Leu
740 745 750

<210> 127
<211> 2673
<212> DNA
<213> Homo sapiens

<400> 127
aggtctagaa ttcaatcggg acgcctcgcg ctgattctca cgggcccggc tgccggcccc 60
cgctctgccc tgcataataa aatggctaag cagggtgaatg gtaatgcggg acagttaaaa 120
gaagaggaag aaccaatgga tacttccagt gtaactcaca cagaacacta caagacactg 180
atagaggcag gcctcccaca gaaggtggca gaaagacttg atgaaatatt tcagacagga 240
ttggtagctt atgtcgatct tgatgaaaga gcaattgatg ctctcaggga atttaataaa 300
gaaggagctc tgtctgtact acagcagttc aaggaaaagt acttatcaca tggtcagaac 360
aaaagtgcac ttttatgtgg agttatgaag acctacaggc agagagagaa acaggggagc 420
aaggtgcaag agtccacaaa gggacctgat gaagcgaaga tcaaggcctt gcttgagaga 480
actggttata ctctggatgt aaccacagga cagaggaagt atggtggtcc tccaccagac 540
agtggtgact ctggcggtga acctggaatt ggaacggagg tatttgtagg caaaatacca 600
agggatttat atgaggatga gttggtgccc ctttttgaga aggcgggacc catttgggat 660
ctacgtctta tgatggatcc actgtccggt cagaatagag ggtatgcatt tatcaccttc 720
tgtggaagg aagctgcaca ggaagccgtg aaactgtgtg acagctatga aattcgccct 780
ggtaaacacc ttggagtgtg ctttctgtg gcaaacaaca gactttttgt tggatccatt 840
ccgaagaata agactaaaga aaacattttg gaagaattca gtaaagtcac agagggtttg 900
gtggacgtta ttctctatca tcaaccgat gacaaaaaga agaactcggg gttctgcttc 960
cttgaatatg aggatcacaa gtcagcagca caagccagac gccggctgat gagtggaaaa 1020
gtaaaagtgt ggggaaatgt agttacagtt gaatgggctg acctgtgga agaaccagat 1080
ccagaagtca tggctaagggt aaaagttttg tttgtgagaa acttggtac tacggtgaca 1140
gaagaatat tggaaaagtc attttctgaa tttggaaaac tcgaaagagt aaagaagttg 1200
aaagattatg catttgttca ttttgaagac agaggagcag ctgttaaggc tatggatgaa 1260
atgaatggca aagaaataga aggggaagaa attgaaatag tcttagccaa gccaccagac 1320
aagaaaagga aagagcgcca agctgctaga caggcctcca gaagcactgc gtatgaagat 1380
tattactacc acctcctcc tcgcatgcca cctccaatta gaggtcggg tegtgtggg 1440
gggagagggt gatatggcta cctccagat tactacggct atgaagatta ctatgatgat 1500
tactatggtt atgattatca cgactatcgt ggaggctatg aagatcccta ctacggctat 1560
gatgatggct atgcagtaag aggaagagga ggaggcagg gaggcgagg tgctccacca 1620
ccaccaaggg ggaggggagc accacctcca agaggtagag ctggctattc acagaggggg 1680
gcacctttg gaccaccaag aggtcttagg ggtggcagag ggggtcctgc tcaacagcag 1740
agaggccgtg gttcccgtg atctcggggc aatcgtgggg gcaatgtagg aggcaagaga 1800
aaggcagatg ggtacaacca gcctgattcc aagcgtcgtc agaccaacaa ccaacagaac 1860
tggtgttccc aacctatcgc tcagcagccg cttcagcaag gtggtgacta ttctggtaac 1920
tatggttaca ataatagcaa ccaggaattt tatcaggata cttatgggca acagtggag 1980
tagacaagta agggcttgaa aatgatactg gcaagatacg attgctcta gatctacatt 2040
cttcaaaaaa aaaaattggc ttaactgttt catctttaag tagcattttg ctgccatttg 2100
tattgggctg aagaaatcac tattgtgtat atactcaagt ctttttattt ttctctttt 2160
cataaatgct cttggacatt attgggcttg cagagttccc ttattctggg gattacaatg 2220
cttttatcgt ttcaggcttc attttagctt caaaacaagc tgggcacact gttaaatcat 2280
gattttgcag aacctttggt tttggacagt ttcatttttt tggatttggg atagattaca 2340
taggagtatg gagtatgctg taaataaaaa tacaagctag tgctttgtct tagtagtttt 2400

aagaaattaa agcaaacaaa ttttaagtttt cttgtattga aaataaccta tgattgtatg 2460
ttttgcattc ctagaagtag gtttaactgtg tttttaaat gttataactt cacacctttt 2520
tgaaatctgc cctacaaaat ttgtttggct taaacgtcaa aagccgtgac aattgttct 2580
ttgatgtgat tgtatttcca atttcttgtt catgtaagat ttcaataaaa ctaaaaaatc 2640
tattcaaac aaaaaaaaaa aaaaaaaaaa aaa 2673

<210> 128

<211> 633

<212> PRT

<213> Homo sapiens

<400> 128

Met	Ala	Asn	Gln	Val	Asn	Gly	Asn	Ala	Val	Gln	Leu	Lys	Glu	Glu	Glu
1				5					10					15	
Glu	Pro	Met	Asp	Thr	Ser	Ser	Val	Thr	His	Thr	Glu	His	Tyr	Lys	Thr
			20					25					30		
Leu	Ile	Glu	Ala	Gly	Leu	Pro	Gln	Lys	Val	Ala	Glu	Arg	Leu	Asp	Glu
		35					40					45			
Ile	Phe	Gln	Thr	Gly	Leu	Val	Ala	Tyr	Val	Asp	Leu	Asp	Glu	Arg	Ala
	50					55					60				
Ile	Asp	Ala	Leu	Arg	Glu	Phe	Asn	Glu	Glu	Gly	Ala	Leu	Ser	Val	Leu
65				70						75					80
Gln	Gln	Phe	Lys	Glu	Ser	Asp	Leu	Ser	His	Val	Gln	Asn	Lys	Ser	Ala
			85						90					95	
Phe	Leu	Cys	Gly	Val	Met	Lys	Thr	Tyr	Arg	Gln	Arg	Glu	Lys	Gln	Gly
		100					105						110		
Ser	Lys	Val	Gln	Glu	Ser	Thr	Lys	Gly	Pro	Asp	Glu	Ala	Lys	Ile	Lys
		115					120					125			
Ala	Leu	Leu	Glu	Arg	Thr	Gly	Tyr	Thr	Leu	Asp	Val	Thr	Thr	Gly	Gln
	130					135					140				
Arg	Lys	Tyr	Gly	Gly	Pro	Pro	Pro	Asp	Ser	Val	Tyr	Ser	Gly	Val	Gln
145					150					155					160
Pro	Gly	Ile	Gly	Thr	Glu	Val	Phe	Val	Gly	Lys	Ile	Pro	Arg	Asp	Leu
			165						170				175		
Tyr	Glu	Asp	Glu	Leu	Val	Pro	Leu	Phe	Glu	Lys	Ala	Gly	Pro	Ile	Trp
		180						185					190		
Asp	Leu	Arg	Leu	Met	Met	Asp	Pro	Leu	Ser	Gly	Gln	Asn	Arg	Gly	Tyr
		195					200					205			
Ala	Phe	Ile	Thr	Phe	Cys	Gly	Lys	Glu	Ala	Ala	Gln	Glu	Ala	Val	Lys
	210					215					220				
Leu	Cys	Asp	Ser	Tyr	Glu	Ile	Arg	Pro	Gly	Lys	His	Leu	Gly	Val	Cys
225					230					235					240
Ile	Ser	Val	Ala	Asn	Asn	Arg	Leu	Phe	Val	Gly	Ser	Ile	Pro	Lys	Asn
			245					250					255		

Lys Thr Lys Glu Asn Ile Leu Glu Glu Phe Ser Lys Val Thr Glu Gly
 260 265 270
 Leu Val Asp Val Ile Leu Tyr His Gln Pro Asp Asp Lys Lys Lys Asn
 275 280 285
 Arg Gly Phe Cys Phe Leu Glu Tyr Glu Asp His Lys Ser Ala Ala Gln
 290 295 300
 Ala Arg Arg Arg Leu Met Ser Gly Lys Val Lys Val Trp Gly Asn Val
 305 310 315 320
 Val Thr Val Glu Trp Ala Asp Pro Val Glu Glu Pro Asp Pro Glu Val
 325 330 335
 Met Ala Lys Val Lys Val Leu Phe Val Arg Asn Leu Ala Thr Thr Val
 340 345 350
 Thr Glu Glu Ile Leu Glu Lys Ser Phe Ser Glu Phe Gly Lys Leu Glu
 355 360 365
 Arg Val Lys Lys Leu Lys Asp Tyr Ala Phe Val His Phe Glu Asp Arg
 370 375 380
 Gly Ala Ala Val Lys Ala Met Asp Glu Met Asn Gly Lys Glu Ile Glu
 385 390 395 400
 Gly Glu Glu Ile Glu Ile Val Leu Ala Lys Pro Pro Asp Lys Lys Arg
 405 410 415
 Lys Glu Arg Gln Ala Ala Arg Gln Ala Ser Arg Ser Thr Ala Tyr Glu
 420 425 430
 Asp Tyr Tyr Tyr His Pro Pro Pro Arg Met Pro Pro Pro Ile Arg Gly
 435 440 445
 Arg Gly Arg Gly Gly Gly Arg Gly Gly Tyr Gly Tyr Pro Pro Asp Tyr
 450 455 460
 Tyr Gly Tyr Glu Asp Tyr Tyr Asp Asp Tyr Tyr Gly Tyr Asp Tyr His
 465 470 475 480
 Asp Tyr Arg Gly Gly Tyr Glu Asp Pro Tyr Tyr Gly Tyr Asp Asp Gly
 485 490 495
 Tyr Ala Val Arg Gly Arg Gly Gly Gly Arg Gly Gly Arg Gly Ala Pro
 500 505 510
 Pro Pro Pro Arg Gly Arg Gly Ala Pro Pro Pro Arg Gly Arg Ala Gly
 515 520 525
 Tyr Ser Gln Arg Gly Ala Pro Leu Gly Pro Pro Arg Gly Ser Arg Gly
 530 535 540
 Gly Arg Gly Gly Pro Ala Gln Gln Gln Arg Gly Arg Gly Ser Arg Gly
 545 550 555 560
 Ser Arg Gly Asn Arg Gly Gly Asn Val Gly Gly Lys Arg Lys Ala Asp
 565 570 575

Gly Tyr Asn Gln Pro Asp Ser Lys Arg Arg Gln Thr Asn Asn Gln Gln
580 585 590

Asn Trp Gly Ser Gln Pro Ile Ala Gln Gln Pro Leu Gln Gln Gly Gly
595 600 605

Asp Tyr Ser Gly Asn Tyr Gly Tyr Asn Asn Asp Asn Gln Glu Phe Tyr
610 615 620

Gln Asp Thr Tyr Gly Gln Gln Trp Lys
625 630

<210> 129

<211> 938

<212> DNA

<213> Homo sapiens

<400> 129

gcaagtgccat gcctctacca tgagggtgga ggagttaaga tcaacagatc cacatgtacc 60
ttgaggtgac agactggctc tgaacaagtt gaaatcatcg cagaaggata aagttcgtca 120
gtttatgatc ttcacacaat ctagtgaata aacagcagta agttgtcttt ctcaaatga 180
ctggaagtta gatgttgcaa cagataattt ttccaaaat cctgaacttt atatacgaga 240
gagtgtaaaa ggatcattgg acaggaagaa gttagaacag ctgtacaata gataccaaga 300
ccctcaagat gagaataaaa ttggaataga tggcatacag cagttctgtg atgacctggc 360
actcgatcca gccagcatta gtgtgttgat tattgcatgg aagttcagag cagcaacaca 420
gtgcgagttc tccaaacagg agttcatgga tggcatgaca gaattaggat gtgacagcat 480
agaaaaacta aaggcccgaga tacccaagat ggaacaagaa ttgaaagaac caggacgatt 540
taaggatttt taccagttta cttttaattt tgcaagaat ccaggacaaa aaggattaga 600
tctagaaatg gccattgcct actggaactt agtgcttaat ggaagattta aattcttaga 660
cttatggaat aaatttttgt tggaaacatca taaacgatca ataccaaag acacttgga 720
tcttctttta gacttcagta cgatgattgc agatgacatg tctaattatg atgaagaagg 780
agcatggcct gtttttattg atgactttgt ggaatttgca cgccctcaaa ttgctgggac 840
aaaaagtaca acagtgtagc actaaaggaa cttctagaa tgtacatagt ctgtacaata 900
aatacaacag aaaattgcaa aaaaaaaaaa aaaaaaaa 938

<210> 130

<211> 244

<212> PRT

<213> Homo sapiens

<400> 130

Met Ile Phe Thr Gln Ser Ser Glu Lys Thr Ala Val Ser Cys Leu Ser
1 5 10 15

Gln Asn Asp Trp Lys Leu Asp Val Ala Thr Asp Asn Phe Phe Gln Asn
20 25 30

Pro Glu Leu Tyr Ile Arg Glu Ser Val Lys Gly Ser Leu Asp Arg Lys
35 40 45

Lys Leu Glu Gln Leu Tyr Asn Arg Tyr Gln Asp Pro Gln Asp Glu Asn
50 55 60

Lys Ile Gly Ile Asp Gly Ile Gln Gln Phe Cys Asp Asp Leu Ala Leu
65 70 75 80

Asp Pro Ala Ser Ile Ser Val Leu Ile Ile Ala Trp Lys Phe Arg Ala
85 90 95

Ala Thr Gln Cys Glu Phe Ser Lys Gln Glu Phe Met Asp Gly Met Thr
100 105 110

Glu Leu Gly Cys Asp Ser Ile Glu Lys Leu Lys Ala Gln Ile Pro Lys
115 120 125

Met Glu Gln Glu Leu Lys Glu Pro Gly Arg Phe Lys Asp Phe Tyr Gln
130 135 140

Phe Thr Phe Asn Phe Ala Lys Asn Pro Gly Gln Lys Gly Leu Asp Leu
145 150 155 160

Glu Met Ala Ile Ala Tyr Trp Asn Leu Val Leu Asn Gly Arg Phe Lys
165 170 175

Phe Leu Asp Leu Trp Asn Lys Phe Leu Leu Glu His His Lys Arg Ser
180 185 190

Ile Pro Lys Asp Thr Trp Asn Leu Leu Leu Asp Phe Ser Thr Met Ile
195 200 205

Ala Asp Asp Met Ser Asn Tyr Asp Glu Glu Gly Ala Trp Pro Val Phe
210 215 220

Ile Asp Asp Phe Val Glu Phe Ala Arg Pro Gln Ile Ala Gly Thr Lys
225 230 235 240

Ser Thr Thr Val

<210> 131

<211> 5170

<212> DNA

<213> Homo sapiens

<400> 131

ccgggtcgac ccacgcgtcc gcgtaattcc gaaagagcag aagaaagaga aggagaacag 60
gaaaagaaga gctagtaagc gagagcgaga gcacagaaaa gaaaaaaaaa agccttaaga 120
ggaccgaagg ggaggaaagg aaaaggatgg acaaccacaa aacgcagcga ttgcggaaat 180
ttccagcgc cattggctgg gcagcgtgag tccttcggtc gggcgtgatt tcagcaccgg 240
gggaactgga cagcacctcg gggggacttc tgggcaaccc gcaaccacag caagaactcc 300
accagcagcc tcaacaacag aagccgcgga aaacctgct ttgtatcaga gaggcaaggt 360
cagtcgcagc cacagccatg cacaggcagt gcgcctgtac tacgctgcaa accctctgct 420
tgtttctcta acatgcactt gcttctaatt actagcattg ttctatttct gatcagtga 480
gatcagtaga tgagattctg taagggtgta cttttaattt atatgtatat atttaacttc 540
ttttctggtt atttttaaag tgttgtgggg gagtggggtt ttttctctac tttttttttt 600
tttttttttt tctttgcttg ccttgcaacta cgtgcctgga tagtttgtgg atataattat 660
tgactggcgt ctgggctatt gcagtgcggg ggggttaggg aggaaggaat ccacccccac 720
cccccaaac ccttttcttc tcctttcctg gcttcggaca ttggagcact aaatgaactt 780
gaattgtgtc tgtggcgagc aggatggtcg ctgttacttt gtgatgagat cggggatgaa 840
ttgctcgctt taaaaatgct gctttggatt ctgttgctgg agacgtctct ttgttttgcc 900
gctggaacag ttacagggga cgtttgcaaa gagaagatct gttcctgcaa tgagatagaa 960
ggggacctac acgtagactg tgaaaaaaag ggcttcacaa gtctgcagcg tttcactgcc 1020
ccgacttccc agttttacca tttatttctg catggcaatt ccctcactcg acttttccct 1080
aatgagttcg ctaactttta taatgcggtt agtttgaca tggaaaacaa tggcttgcat 1140
gaaatcgctt cgggggcttt tctggggctg cagctggtga aaaggctgca catcaacaac 1200
aacaagatca agtcttttct aaagcagact tttctggggc tggacgatct ggaatatctc 1260
caggctgatt ttaatttatt acgagatata gaccggggg ccttcaggga cttgaacaag 1320
ctggaggtgc tcatttttaa tgacaatctc atcagcacc cacttgcaa cgtgttccag 1380

tatgtgcccc	tcaccacact	cgacctccgg	ggtaacaggg	tgaaacgctg	ccctatgagg	1440
agtcttggag	caaatccctg	gtattgcgga	gacccgtcta	gagataaccc	ttgggactgc	1500
acctgtgatc	tgctctccct	gaaagaatgg	ctggaaaaca	ttcccaagaa	tgccctgac	1560
ggccgagtg	tctgcgaagc	cbccaccaga	ctgcagggtg	aagacctcaa	tgaaaccacc	1620
gaacaggact	tgtgtccttt	gaaaaaccga	gtggattcta	gtctcccgcc	gccccctgcc	1680
caagaagaga	cctttgctcc	tggaccctcg	ccaactcctt	tcaagacaaa	tgggcaagag	1740
gatcatgcca	caccagggtc	tgctccaaac	ggaggtacaa	agatcccagg	caactggcag	1800
atcaaaatca	gaccacacagc	agcgatagcg	acgggtagct	ccaggaacaa	acccttagct	1860
aacagtttac	cctgccctgg	gggctgcagc	tgcgaccaca	tcccagggtc	gggtttaag	1920
atgaaactga	acaacaggaa	cgtgagcagc	ttggctgatt	tgaagcccaa	gctctctaac	1980
gtgcaggagc	ttttctacg	agataacaag	atccacagca	tccgaaaatc	gcactttgtg	2040
gattacaaga	acctcattct	gttggatctg	ggcaacaata	acatcgctac	tgtagagaac	2100
aacactttca	agaacctttt	ggacctcagg	tggctatata	tggatagcaa	ttacctggac	2160
acgctgtccc	gggagaaatt	cgcggggctg	caaaacctag	agtacctgaa	cgtggagtac	2220
aacgctatcc	agctcatcct	cccgggcact	ttcaatgcca	tgcacaaact	gaggatcctc	2280
attctcaaca	acaacctgct	gaggtccctg	cctgtggacg	tgttcgctgg	ggtctcgctc	2340
tctaaactca	gcctgcacaa	caattacttc	atgtacctcc	cggtaggcagg	ggtgctggac	2400
cagttaacct	ccatcatcca	gatagacctc	cacggaaacc	cctgggagtg	ctcctgcaca	2460
atttgtcctt	tcaagcagtg	ggcagaacgc	ttgggttccg	aagtgtgat	gagcgacctc	2520
aagtgtgaga	cgccggtgaa	cttctttaga	aaggatttca	tgtcctcttc	caatgacgag	2580
atctgccctc	agctgtacgc	taggatctcg	cccacgttaa	cttcgcacag	taaaaacagc	2640
actgggttgg	cggagaccgg	gacgcactcc	aactctacc	tagacaccag	cagggtgtcc	2700
atctcgggtg	tgggtccggg	actgctgctg	gtgtttgtca	cctccgcctt	caccgtggtg	2760
ggcatgctcg	tgtttatcct	gaggaaccga	aagcgttcca	agagacgaga	tgccaaactcc	2820
tccgcgtccg	agattaattc	cctacagaca	gtctgtgact	cttctactg	gcacaatggg	2880
ccttacaacg	cagatggggc	ccacagagtg	tatgactgtg	gctctcactc	gctctcagac	2940
taagacccca	acccaatag	gggagggcag	agggaaaggcg	atacatcctt	ccccaccgca	3000
ggcaccgccg	gggtcggagg	ggcgtgtacc	caaatccccg	cgccatcagc	ctggatgggc	3060
ataagtagat	aaataactgt	gagctcgcac	aaccgaaagg	gcctgacccc	ttacttagct	3120
ccctccttga	aacaagagc	agactgtgga	gagctgggag	agcgagccca	gctcgctctt	3180
tgtctgagagc	cccttttgac	agaaagccca	gcacgacctt	gctggaagaa	ctgacagtgc	3240
cctcgccctc	ggccccgggg	cctgtggggt	tggatgccgc	ggttctatac	atatatacat	3300
atatccacat	ctatatagag	agatagatat	ctatttttcc	cctgtggatt	agccccgtga	3360
tggctccctg	ttggctacgc	agggatgggc	agttgcacga	aggcatgaat	gtattgtaaa	3420
taagtaactt	tgactttctga	caaaaaacaa	aaagtgtctg	atggctcgca	tggaatccac	3480
gcgctccagg	gactctgccc	gcccccgca	ctggagacgg	catctcgctc	acagcaccca	3540
ccctccttacc	tgataagttc	catcgtatca	aactttctat	aaacaaaata	cagtataatc	3600
agaaagtgcc	atttcgccat	tatttgtgat	cggtaggcag	ttcagagcat	aagttaactg	3660
tgaaaaaaat	gtaaagggtt	tatttaggac	atttgcattg	ctagtcatca	gtccatttta	3720
tgagttaaca	atgtattttg	ttgagggaag	tttttagggg	ttgttttggg	ttcttttatt	3780
ttgatgggtg	tgttttat	tattttat	ttttcagggg	gtcttttttt	taatacatat	3840
ccaataatgc	cttccatctg	aatgtaaaat	aagtacccat	gatttctatt	atagtatcag	3900
tgtaatattt	taaaaaatga	ttttgaggca	gttaagcatg	accaattaat	gtcactctag	3960
tgcttaggct	gcgatccctat	ggtagcaatt	ctgtgctggg	ataaatctta	cttataaagt	4020
aggaaaagag	aaccgaggaa	gcacgtgaaa	cttactaatt	ctattcgagg	attttataat	4080
ggcatatttt	ttcagtatta	aagcgaaaat	gttttcaact	ctgggtcctt	acctttttcc	4140
agcttcatat	ttgcaagtgg	ttaattggat	ttgcggtgga	agagacaggg	gagggaaacg	4200
gttgggggtg	gatcccttcc	tgagctacat	taaggctcct	tctctaactg	ccttacttag	4260
ctttttaccc	tttaagtagc	tcctcttccc	tcgcccccc	cctctacccc	acccccacct	4320
tcgctcagac	tttaccggct	ttccccagtc	cataaaggct	ttgccccaac	actcaccctt	4380
tctttttttc	ccctctccaa	atgcagcagt	gaatcccttt	attaatactg	gaaatccctc	4440
tctgtgctct	ttgttgggtg	tgccacact	gcagatatat	taaggatggt	aggagagatt	4500
tgatttaatt	gactctgcct	agataggtct	cattaaacag	agtggagatt	tcattgggtc	4560
gcactcctca	atgaaagaca	gacctaatga	ctggcatttg	agatgctgct	ggcattttga	4620
attcaacatc	tgctgaaaac	ggtaaaaacta	attagtcccc	acccaccttc	cccggcccag	4680
caactgcata	ttgaaatttg	ttaaagcact	catctttatg	gaaattaatc	attatcctaa	4740
agaagtgttt	ctctcccatc	atccggattt	ctgggtgtgg	cccagcaatt	aacaaaaaca	4800
gcttcaactg	ttcgaaattt	attgaaccaa	tgtaactctg	gcctcaatca	tattcctctg	4860
ggattttctaa	acagcagtta	agctacaaaa	agcaaacaaa	accacacata	ttgatggagt	4920
ctgcattcca	ccacatatcc	acccttgaga	agtatgtcaa	aagactgcag	actatagatt	4980

tttttttaat ataggattat aaatcagcta gtgaaagacc tcagagcagt tgtaagtaga 5040
 tctgccatct agaactcata ttctaaaggg aagtgatttc tcagaacagt gatgttctgg 5100
 aatatgtatt attttattta acactttttt aataaaatct ttattataaa ccatgaaaaa 5160
 aaaaaaaaaa 5170

<210> 132
 <211> 695
 <212> PRT
 <213> Homo sapiens

<400> 132
 Met Leu Leu Trp Ile Leu Leu Leu Glu Thr Ser Leu Cys Phe Ala Ala
 1 5 10 15
 Gly Asn Val Thr Gly Asp Val Cys Lys Glu Lys Ile Cys Ser Cys Asn
 20 25 30
 Glu Ile Glu Gly Asp Leu His Val Asp Cys Glu Lys Lys Gly Phe Thr
 35 40 45
 Ser Leu Gln Arg Phe Thr Ala Pro Thr Ser Gln Phe Tyr His Leu Phe
 50 55 60
 Leu His Gly Asn Ser Leu Thr Arg Leu Phe Pro Asn Glu Phe Ala Asn
 65 70 75 80
 Phe Tyr Asn Ala Val Ser Leu His Met Glu Asn Asn Gly Leu His Glu
 85 90 95
 Ile Val Pro Gly Ala Phe Leu Gly Leu Gln Leu Val Lys Arg Leu His
 100 105 110
 Ile Asn Asn Asn Lys Ile Lys Ser Phe Arg Lys Gln Thr Phe Leu Gly
 115 120 125
 Leu Asp Asp Leu Glu Tyr Leu Gln Ala Asp Phe Asn Leu Leu Arg Asp
 130 135 140
 Ile Asp Pro Gly Ala Phe Gln Asp Leu Asn Lys Leu Glu Val Leu Ile
 145 150 155 160
 Leu Asn Asp Asn Leu Ile Ser Thr Leu Pro Ala Asn Val Phe Gln Tyr
 165 170 175
 Val Pro Ile Thr His Leu Asp Leu Arg Gly Asn Arg Leu Lys Arg Cys
 180 185 190
 Pro Met Arg Ser Leu Gly Ala Asn Pro Trp Tyr Cys Gly Asp Pro Ala
 195 200 205
 Arg Asp Asn Pro Trp Asp Cys Thr Cys Asp Leu Leu Ser Leu Lys Glu
 210 215 220
 Trp Leu Glu Asn Ile Pro Lys Asn Ala Leu Ile Gly Arg Val Val Cys
 225 230 235 240
 Glu Ala Pro Thr Arg Leu Gln Gly Lys Asp Leu Asn Glu Thr Thr Glu
 245 250 255
 Gln Asp Leu Cys Pro Leu Lys Asn Arg Val Asp Ser Ser Leu Pro Ala

260										265										270											
Pro	Pro	Ala	Gln	Glu	Glu	Thr	Phe	Ala	Pro	Gly	Pro	Leu	Pro	Thr	Pro																
		275						280																							
Phe	Lys	Thr	Asn	Gly	Gln	Glu	Asp	His	Ala	Thr	Pro	Gly	Ser	Ala	Pro																
	290						295					300																			
Asn	Gly	Gly	Thr	Lys	Ile	Pro	Gly	Asn	Trp	Gln	Ile	Lys	Ile	Arg	Pro																
	305				310						315				320																
Thr	Ala	Ala	Ile	Ala	Thr	Gly	Ser	Ser	Arg	Asn	Lys	Pro	Leu	Ala	Asn																
			325						330					335																	
Ser	Leu	Pro	Cys	Pro	Gly	Gly	Cys	Ser	Cys	Asp	His	Ile	Pro	Gly	Ser																
		340						345						350																	
Gly	Leu	Lys	Met	Asn	Cys	Asn	Asn	Arg	Asn	Val	Ser	Ser	Leu	Ala	Asp																
	355						360							365																	
Leu	Lys	Pro	Lys	Leu	Ser	Asn	Val	Gln	Glu	Leu	Phe	Leu	Arg	Asp	Asn																
	370					375					380																				
Lys	Ile	His	Ser	Ile	Arg	Lys	Ser	His	Phe	Val	Asp	Tyr	Lys	Asn	Leu																
	385				390						395				400																
Ile	Leu	Leu	Asp	Leu	Gly	Asn	Asn	Asn	Ile	Ala	Thr	Val	Glu	Asn	Asn																
			405					410						415																	
Thr	Phe	Lys	Asn	Leu	Leu	Asp	Leu	Arg	Trp	Leu	Tyr	Met	Asp	Ser	Asn																
			420				425						430																		
Tyr	Leu	Asp	Thr	Leu	Ser	Arg	Glu	Lys	Phe	Ala	Gly	Leu	Gln	Asn	Leu																
	435					440					445																				
Glu	Tyr	Leu	Asn	Val	Glu	Tyr	Asn	Ala	Ile	Gln	Leu	Ile	Leu	Pro	Gly																
	450					455					460																				
Thr	Phe	Asn	Ala	Met	Pro	Lys	Leu	Arg	Ile	Leu	Ile	Leu	Asn	Asn	Asn																
	465				470				475					480																	
Leu	Leu	Arg	Ser	Leu	Pro	Val	Asp	Val	Phe	Ala	Gly	Val	Ser	Leu	Ser																
			485					490						495																	
Lys	Leu	Ser	Leu	His	Asn	Asn	Tyr	Phe	Met	Tyr	Leu	Pro	Val	Ala	Gly																
		500					505						510																		
Val	Leu	Asp	Gln	Leu	Thr	Ser	Ile	Ile	Gln	Ile	Asp	Leu	His	Gly	Asn																
	515						520						525																		
Pro	Trp	Glu	Cys	Ser	Cys	Thr	Ile	Val	Pro	Phe	Lys	Gln	Trp	Ala	Glu																
	530					535					540																				
Arg	Leu	Gly	Ser	Glu	Val	Leu	Met	Ser	Asp	Leu	Lys	Cys	Glu	Thr	Pro																
	545				550				555					560																	
Val	Asn	Phe	Phe	Arg	Lys	Asp	Phe	Met	Leu	Leu	Ser	Asn	Asp	Glu	Ile																
			565				570						575																		
Cys	Pro	Gln	Leu	Tyr	Ala	Arg	Ile	Ser	Pro	Thr	Leu	Thr	Ser	His	Ser																

580 585 590
 Lys Asn Ser Thr Gly Leu Ala Glu Thr Gly Thr His Ser Asn Ser Tyr
 595 600 605
 Leu Asp Thr Ser Arg Val Ser Ile Ser Val Leu Val Pro Gly Leu Leu
 610 615 620
 Leu Val Phe Val Thr Ser Ala Phe Thr Val Val Gly Met Leu Val Phe
 625 630 635 640
 Ile Leu Arg Asn Arg Lys Arg Ser Lys Arg Arg Asp Ala Asn Ser Ser
 645 650 655
 Ala Ser Glu Ile Asn Ser Leu Gln Thr Val Cys Asp Ser Ser Tyr Trp
 660 665 670
 His Asn Gly Pro Tyr Asn Ala Asp Gly Ala His Arg Val Tyr Asp Cys
 675 680 685
 Gly Ser His Ser Leu Ser Asp
 690 695

<210> 133
 <211> 1564
 <212> DNA
 <213> Homo sapiens

<400> 133
 attctagacc tgggcctccc aaagtgtgtg gattataggt gtaagccacc gtgtctggcc 60
 tctgaacaac tttttcagca actaaaaaag ccacaggagt tgaactgcta ggattctgac 120
 tatgtctgtg tggctagtgc tctactcct acctacatta aaatctgttt tttgttctct 180
 tgtaactagc ctttaccttc ctaacacaga ggatctgtca ctgtggctct ggcccaaacc 240
 tgacctcac tctggaacga gaacagaggt ttctaccac accgtccct cgaagccggg 300
 gacagcctca ccttgctggc ctctcgctgg agcagtgcc tcaccaactg tctcacgtct 360
 ggaggcactg actcgggcag tgcaggtagc tgagcctctt ggtagctgcg gctttcaagg 420
 tgggccttgc cctggccgta gaagggattg acaagcccga agatttcata ggcgatggct 480
 cccactgcc aggcacagc cttgctgtag tcaatcactg ccctggggcc aggacgggcc 540
 gtggacacct gctcagaagc agtgggtgag acatcacgct gcccgcccat ctaacctttt 600
 catgtcctgc acatcacetg atccatgggc taatctgaac tctgtcccaa ggaaccaga 660
 gcttgagtga gctgtggctc agaccagaa ggggtctgct tagaccacct ggtttatgtg 720
 acaggacttg cattctcctg gaacatgagg gaacgccgga ggaaagcaaa gtggcagga 780
 aggaacttgt gccaaattat gggtcagaaa agatggaggt gttgggttat cacaaggcat 840
 cgagtctcct gcattcagtg gacatgtggg ggaagggctg ccgatggcg atgacacact 900
 cgggactcac ctctggggcc atcagacagc cgtttccgcc ccgatccacg taccagctgc 960
 tgaagggcaa ctgcaggccg atgctctcat cagccaggca gcagccaaaa tctgcgatca 1020
 ccagccaggg gcagccgtct gggaaggagc aagcaaagt accatttctc ctcccctcct 1080
 tccctctgag aggccctcct atgtccctac taaagccacc agcaagacat agctgacagg 1140
 ggctaattgg tcagtgttg ccaggaggt cagcaaggcc tgagagctga tcagaagggc 1200
 ctgctgtgcg aacacggaaa tgctccagt aagtacaggc tgcaaaatcc ccaggcaaag 1260
 gactgtgtgg ctcaatttaa atcatgttct agtaattgga gctgtcccca agaccaaagg 1320
 agctagagct tggttcaaat gatctccaag ggccttata ccccaggaga ctttgatttg 1380
 aatttgaaac cccaaatcca aacctaaaga ccaggtgcat taagaatcag ttattgccgg 1440
 gtgtggtggc ctgtaatgcc aacatttttg gaggccgagg cgggtagatc acctgaggtc 1500
 aggagttcaa gaccagcctg gccaacatgg tgaaccctt gtctctacta aaaaaaaaaa 1560
 aaaa 1564

<210> 134
 <211> 109

<212> PRT

<213> Homo sapiens

<400> 134

Met Leu Trp Trp Leu Val Leu Leu Leu Leu Pro Thr Leu Lys Ser Val
1 5 10 15

Phe Cys Ser Leu Val Thr Ser Leu Tyr Leu Pro Asn Thr Glu Asp Leu
20 25 30

Ser Leu Trp Leu Trp Pro Lys Pro Asp Leu His Ser Gly Thr Arg Thr
35 40 45

Glu Val Ser Thr His Thr Val Pro Ser Lys Pro Gly Thr Ala Ser Pro
50 55 60

Cys Trp Pro Leu Ala Gly Ala Val Pro Ser Pro Thr Val Ser Arg Leu
65 70 75 80

Glu Ala Leu Thr Arg Ala Val Gln Val Ala Glu Pro Leu Gly Ser Cys
85 90 95

Gly Phe Gln Gly Gly Pro Cys Pro Gly Arg Arg Arg Asp
100 105

<210> 135

<211> 839

<212> DNA

<213> Homo sapiens

<400> 135

aacgcgtttt gccagttatg cgaaaacatg gctgcggccg gtttggccct tctttgtagg 60
agagtttcat ccgccttgaa atcttcccca tcgttaataa ctctcaggt ccctgcctgc 120
acagggtttt ttcttagttt gttgcctaag agtacaccaa atgtgacatc ctttcaccaa 180
tatagattac ttcataccac attgtcaagg aaaggactag aagaattttt tgatgaccca 240
aaaaactggg ggcaagaaaa agtaaaatct ggagcagcat ggacctgtca gcaactaagg 300
aacaaaagta atgaagattt acacaaactt tggatatgtc tactgaaaga aagaacatg 360
cttctaacc tagagcagga ggccaagcgg cagagattgc caatgccaaag tccagagcgg 420
ttagataagg tagtagattc catggatgca ttagataaag ttgtccagga aagagaagat 480
gccctaaggc ttcttcagac tggtaagaa agagctagac ctggtgcttg gagaagagac 540
atctttggaa gaatcatctg gcacaagttc aagcagtggg ttataccttg gcacctaatt 600
aaaagataca ataggaaacg attctttgcc ttgccttatg tggaccattt tctcagactg 660
gaacgtgaga aacgagccc catcaaagca cggaaggaaa atttagagag aaagaagca 720
aaaattcttt taaaaaagtt tccacatctt gctgaagccc aaaagtcaag tcttgtctaa 780
gatgtctgaa ctattaaatt taccattttg tttttcttga aaaaaaaaaa aaaaaaaaaa 839

<210> 136

<211> 250

<212> PRT

<213> Homo sapiens

<400> 136

Met Ala Ala Ala Gly Leu Ala Leu Leu Cys Arg Arg Val Ser Ser Ala
1 5 10 15

Leu Lys Ser Ser Arg Ser Leu Ile Thr Pro Gln Val Pro Ala Cys Thr
20 25 30

Gly Phe Phe Leu Ser Leu Leu Pro Lys Ser Thr Pro Asn Val Thr Ser

35

40

45

Phe His Gln Tyr Arg Leu Leu His Thr Thr Leu Ser Arg Lys Gly Leu
50 55 60

Glu Glu Phe Phe Asp Asp Pro Lys Asn Trp Gly Gln Glu Lys Val Lys
65 70 75 80

Ser Gly Ala Ala Trp Thr Cys Gln Gln Leu Arg Asn Lys Ser Asn Glu
85 90 95

Asp Leu His Lys Leu Trp Tyr Val Leu Leu Lys Glu Arg Asn Met Leu
100 105 110

Leu Thr Leu Glu Gln Glu Ala Lys Arg Gln Arg Leu Pro Met Pro Ser
115 120 125

Pro Glu Arg Leu Asp Lys Val Val Asp Ser Met Asp Ala Leu Asp Lys
130 135 140

Val Val Gln Glu Arg Glu Asp Ala Leu Arg Leu Leu Gln Thr Gly Gln
145 150 155 160

Glu Arg Ala Arg Pro Gly Ala Trp Arg Arg Asp Ile Phe Gly Arg Ile
165 170 175

Ile Trp His Lys Phe Lys Gln Trp Val Ile Pro Trp His Leu Asn Lys
180 185 190

Arg Tyr Asn Arg Lys Arg Phe Phe Ala Leu Pro Tyr Val Asp His Phe
195 200 205

Leu Arg Leu Glu Arg Glu Lys Arg Ala Arg Ile Lys Ala Arg Lys Glu
210 215 220

Asn Leu Glu Arg Lys Lys Ala Lys Ile Leu Leu Lys Lys Phe Pro His
225 230 235 240

Leu Ala Glu Ala Gln Lys Ser Ser Leu Val
245 250

<210> 137

<211> 1067

<212> DNA

<213> Homo sapiens

<400> 137

gacaaagga gaaaaacaac aggaagcagc ttacaaactc ggtgaacaac tgagggaacc 60
aaaccagaga cgcgctgaac agagagaatc aggtctaaag caagtgaag tgggcagaga 120
ttccaccagg actggtgcaa ggcgcagagc cagccagatt tgagaagaag gcaaaaagat 180
gctggggagc agagctgtaa tgctgctgtt gctgctgccc tggacagctc agggcagagc 240
tgtgctggg ggcagcagcc ctgcctggac tcagtgccag cagctttcac agaagctctg 300
cacactggcc tggagtgcac atccactagt gggacacatg gatctaagag aagagggaga 360
tgaagagact acaaatgatg tccccatat ccagtgtgga gatggctgtg accccaagg 420
actcagggac aacagtcagt tctgcttgca aaggatccac cagggtctga ttttttatga 480
gaagctgcta ggatcgata ttttcacagg ggagccttct ctgctccctg atagccctgt 540
gggccagctt catgcctccc tactgggcct cagccaactc ctgcagcctg agggtcacca 600
ctgggagact cagcagattc caagcctcag tcccagccag ccatggcagc gtctccttct 660
ccgcttcaaa atccttcgca gcctccaggc ctttgtggct gtagccgccc gggctcttgc 720

ccatggagca gcaaccctga gtccctaaag gcagcagctc aaggatggca ctcagatctc 780
catggcccag caaggccaag ataaatctac caccgccaggc acctgtgagc caacagggtta 840
attagtccat taatttttagt gggacctgca tatgttgaaa attaccaata ctgactgaca 900
tgtgatgctg acctatgata aggttgagta tttattagat gggaaggga atttggggat 960
tatttatcct cctggggaca gtttggggag gattatttat tgtatttata ttgaattatg 1020
tacttttttc aataaagtct tatttttgtg gcaaaaaaaaa aaaaaaa 1067

<210> 138
<211> 189
<212> PRT
<213> Homo sapiens

<400> 138
Met Leu Gly Ser Arg Ala Val Met Leu Leu Leu Leu Leu Pro Trp Thr
1 5 10 15
Ala Gln Gly Arg Ala Val Pro Gly Gly Ser Ser Pro Ala Trp Thr Gln
20 25 30
Cys Gln Gln Leu Ser Gln Lys Leu Cys Thr Leu Ala Trp Ser Ala His
35 40 45
Pro Leu Val Gly His Met Asp Leu Arg Glu Glu Gly Asp Glu Glu Thr
50 55 60
Thr Asn Asp Val Pro His Ile Gln Cys Gly Asp Gly Cys Asp Pro Gln
65 70 75 80
Gly Leu Arg Asp Asn Ser Gln Phe Cys Leu Gln Arg Ile His Gln Gly
85 90 95
Leu Ile Phe Tyr Glu Lys Leu Leu Gly Ser Asp Ile Phe Thr Gly Glu
100 105 110
Pro Ser Leu Leu Pro Asp Ser Pro Val Gly Gln Leu His Ala Ser Leu
115 120 125
Leu Gly Leu Ser Gln Leu Leu Gln Pro Glu Gly His His Trp Glu Thr
130 135 140
Gln Gln Ile Pro Ser Leu Ser Pro Ser Gln Pro Trp Gln Arg Leu Leu
145 150 155 160
Leu Arg Phe Lys Ile Leu Arg Ser Leu Gln Ala Phe Val Ala Val Ala
165 170 175
Ala Arg Val Phe Ala His Gly Ala Ala Thr Leu Ser Pro
180 185

<210> 139
<211> 1785
<212> DNA
<213> Homo sapiens

<400> 139
gccaggaga ctccccctccc accagcctgg cccccagagt gctgactggc aacaatattc 60
caagttaaaa tagtttgcta aatagtata caattagttt acaattcaaa tatatcagag 120
gaaaagacag ggaataaaat tctaagatac atgaatccca gaccattgct ctccaaatat 180
tttcaagtga ttcattctct ttatttaaaa aatgaattaa ccaccagatg ggacactcat 240

```

acattcctga tgggtgtagg aatcagtaga cctgtatgg aaagcaatag gataatattt 300
cataggatca aattaaaatg ttcacagcat tggttccagg aaattggcct ctggagaatt 360
tatactccag aaacaattca acaaaagaac acagctctgt gcatgcagat gctcattagc 420
ccatcaccta gagtaaggga abgtggagat cccaatgaac aacaatgaga tgggttagcg 480
aactgtgacc tatcagccca atggacattt aagcaatcac tgaaaagtag aaacatgaag 540
atattacaca acatggaac tgtttatgga gtatatttag gtaaaaagga aaaaaaggca 600
gaactgtata tctgtggttg gatatacttt ttttttttaa tattaagcac caaccaaaag 660
aagaaaggag gatagaaaaa ataaaatgga agatgtaggg tgggcagatt agggctgcgt 720
ttgttgcttg ctttcatgtt accatcatag cgtttttgcc acttacaag gaggaaaaaa 780
atcaattctg tgccaacca gacaacagag acctgagtgg gggttggga gagagatttt 840
tcagcacaga atcagactcc ttctccaaag agctgtgtgg ccttcacctg caaggcgacc 900
tcttccacaa gcagaggcca ggacaaaaag aggcacctgt gagcgacaaa gacggtttcc 960
ttggtttccc tcacggcgcc aagcggagtg gccgcctccc accacagggc cccctaattg 1020
gcgcttttgt cctgcgggac agaggacct cattagaagg cgctggtgct aaagggaat 1080
gcatttccag aacaggaggt tcatcattc ctacgttag cgacagaatg gtgacagaag 1140
ctctgtggac gtattttcca gcgttcagtt cacatcaagg atgggtatgc actggcgga 1200
aaggccctca ggaggaagca ctcatctta acaagacctg ctttctcagg actgcaaaca 1260
agagaaaagc ccaataagag gaaagtgaag tgtgaaaatc catttcaaag aactttactg 1320
agaactcacc atgtcagaga gcttccatta atacagttgc ttcaaaacca ataggcagaa 1380
cccaaagtaa tggatgactc accaggactt ttagcagcta atggagtact ctgagaaatg 1440
ctgtaaatcc aatatttttg ctgaaaaatt aatgtgttat gggaggagc ctcttttcta 1500
atcacttacc caccctcacc ctctacttct agttcaccat cagcatcttt agctcttcta 1560
atttttgcca aagctgaatg cagtctttc ccaattttct tatatcattt taagtattat 1620
atatgctatc ttaccaggcc cactcagaga aacagcactt atctttaaaa ttatttttta 1680
actactccc acagcctacg gccaatataa actctgtaaa ctatgttaaa tataccaaag 1740
taaagtttcc agaattcaca gaaaaaaaaa aaaaaaaaaa aaaaaa 1785

```

<210> 140
 <211> 86
 <212> PRT
 <213> Homo sapiens

```

<400> 140
Met Gly Ala Phe Val Leu Arg Gly Arg Gly Thr Ser Leu Glu Gly Ala
  1              5              10              15

Gly Ala Lys Gly Lys Cys Ile Ser Arg Thr Gly Gly Phe Ile Ile Pro
      20              25              30

Ser Val Ser Asp Arg Met Val Thr Glu Ala Leu Trp Thr Tyr Phe Pro
    35              40              45

Ala Phe Ser Ser His Gln Gly Trp Val Cys Thr Gly Gly Lys Gly Pro
    50              55              60

Gln Glu Glu Ala Leu Ile Phe Asn Lys Thr Cys Phe Leu Arg Thr Ala
    65              70              75              80

Asn Lys Arg Lys Ala Gln
      85

```

<210> 141
 <211> 947
 <212> DNA
 <213> Homo sapiens

```

<400> 141
caaaactgaag gtaggatgtc tatataccct tcatttcagg ggcccctaga gaatatacct 60
tagcttttccc tcttcgggca tcttggaag tggatacctg tggccttctt ttcactttga 120

```

```

aagcttacac cctcattttg actacaacta atactaaaag cttggcatct tgcttgagat 180
tagtggtttgc tatgccaaac acctttctct ctttctattg aaagcaaaac ataggaaaat 240
aatttgaat acttttaagg catcttaaaa acatgacttt ttcactttat ggaaaagcag 300
accaattttg cttttttttc cbaacttggt ctccagactg tgccaataaa atgtgttcat 360
agcaggaaaa tttggaaaat acagaaaagc actatgaaga aaacaaaatg taccctaaat 420
cccatcactc agataacatc actgttaatg ttttgatatg tatttccagt cttttctatt 480
gtgttaattt ttcattttgt ttttgaataa ataatcttca ggaagaaaat tgagcctttt 540
ctgccacctc tgaagcctga ttactgtgtg aagcaggcca tgaaggccat cctcactgac 600
cagcccatga tctgcactcc ccgcctcatg tacatcgtga ccttcatgaa gagcatccta 660
ccatttgaag cagttgtgtg catgtatcgg ttcctaggag cggacaagtg tatgtacccc 720
tttattgctc aaagaaaagca agccacaac aataatgaag caaaaaatg aatctaagaa 780
tctttttgta tggaatatta cttctatcag aagatgatca agatgtttca gtccagtgc 840
catcagcatt gctgacattt tatggattct aaacttgtgt tgtttctttt ttaaatcaac 900
tttttaaaaa aataaagtgt aaattaaccg aaaaaaaaa aaaaaaa 947

```

<210> 142

<211> 65

<212> PRT

<213> Homo sapiens

<400> 142

Met Lys Ala Ile Leu Thr Asp Gln Pro Met Ile Cys Thr Pro Arg Leu

1 5 10 15

Met Tyr Ile Val Thr Phe Met Lys Ser Ile Leu Pro Phe Glu Ala Val

20 25 30

Val Cys Met Tyr Arg Phe Leu Gly Ala Asp Lys Cys Met Tyr Pro Phe

35 40 45

Ile Ala Gln Arg Lys Gln Ala Thr Asn Asn Asn Glu Ala Lys Asn Gly

50 55 60

Ile

65

<210> 143

<211> 1148

<212> DNA

<213> Homo sapiens

<400> 143

```

gcgagatccc taccgcagta tccgcctctg ccgcgcgga gcttcccga cctcttcagc 60
cgcccggagc cgctcccga gccggccgt agaggctgca atcgagccg ggagcccgca 120
gcccgcgccc cgagcccgcc gccgcccttc gagggcgccc caggccgccc catggtgaag 180
gtgacgttca actccgctct ggcccagaag gaggccaaga aggacgagcc caagagcggc 240
gaggaggcgc tcatcatccc ccccgacgcc gtcgcggtgg actgcaagga ccagatgat 300
gtggtaccag ttggccaaag aagagcctgg tgttggtgca tgtgctttg actagcattt 360
atgcttgacg gtgttattct aggaggagca tacttgtaca aatattttgc acttcaacca 420
gatgacgtgt actactgttg aataaagtac atcaaagatg atgtcatctt aaatgagccc 480
tctgcagatg cccagctgc tctctaccag acaattgaag aaaatattaa aatctttgaa 540
gaagaagaag ttgaatttat cagtgtgect gtcccagagt ttgcagatag tgatcctgcc 600
aacattgttc atgactttta caagaaactt acagcctatt tagatcttaa cctggataag 660
tgctatgtga tccctctgaa cacttccatt gttatgccac ccagaaacct actggagtta 720
cttattaaca tcaaggctgg aacctatttg cctcagtcct atctgattca tgagcacatg 780
gttattactg atcgattga aaacattgat cacctggggt tctttattta tcgactgtgt 840
catgacaagg aaacttacia actgcaacgc agagaaacta ttaaaggat tcagaaactg 900
gaagccagca atgttttcgc aattcggcat tttgaaaaca aatttgccgt ggaaacttta 960
atttgttctt gaacagtcaa gaaaaacatt attgaggaat attaatatca cagcataacc 1020

```

1148

<400> 144

Lys Phe Ala Val Glu Thr Leu Ile Cys Ser
260 265

<210> 145
 <211> 1353
 <212> DNA
 <213> Homo sapiens

<400> 145
 aggtctagaa ttcaatcggc cgcttttttt tttttttttt ttgctaacac ccagttctgc 60
 ctgctacacc acctgggaat tgaccatcca gctgtgttct ctctgcctct ggcccagtag 120
 caactgacct gccctattcc tggctgatct catgctgctg aagttcaagg cgctggacac 180
 actaccctga tttttgttgc acctggccta gcctcattaa cttggcaatt agttggtggt 240
 tttctttctt tcttcttctt ttttttttta attcatttca tttctgtcac cccttaattt 300
 tcatctttct tttttaagta gttgttccat gctgtgtgtt tttgttttat ctttcattgc 360
 ctttccctct gcagtcaaca ttatgacctg gggactccag catccttcaa gcaagccatt 420
 tccgaagaag gtgaaaagaa gccaggatga ttggcacctc ctctcctcc tctcttctt 480
 cctcttccct tgcccagccc cctcctgtgc gtgtgtttca gacaacacag gagccagcac 540
 aggagtggaa aatcctgcag cgcaactcag ctcagcccac agaagccttg ggaatggcct 600
 cagtttctgc aataagaaga tttttttttt ctttttaaat cttcattata ttttcttga 660
 ttgtctgtga gaaagtaccc aggtccgcct ggaattactc tacagtagaa ataactgaac 720
 acaaacaac tgatggaaaa aaagagttaa ctattttatt tatttcaata tttaaaagga 780
 aaaaagtgtc gacatggcac agtatttttg tttaaagtac ctctacttc aaaagttaag 840
 cgcaattttg tgaagacatg aaatcataag agtacttaat gtaaaataaa agactgcata 900
 ttaactctaa agaaaaatgc cccacatttt aaataagaaa ataaagatca actctgctct 960
 ctcaggcttt ttaaaaagcc attcatgtat gtgctttagg tatttttatt tctgaggtt 1020
 ggatgtggta agtgaggagt gctcagtttt ttttctctc ttcaaaagtc tattgaaagt 1080
 gttggtgatg ttaaatgatt gtgtgttaag atttgactga aataacttag ccacaaatca 1140
 gcagtttccc ccacctcat tgcccctca cccaggcaa gccctttta tctgaatgtc 1200
 agaagcagcc tgctcctag ttatcatgtc tgatgaggtc tagctcagga aggaattcca 1260
 tctattgatg gaatatatcc cctcaagttc aatagattcg aacacagaga gctttgttta 1320
 aaataatgca gcaaaaaaaaa aaaaaaaaaa aaa 1353

<210> 146
 <211> 113
 <212> PRT
 <213> Homo sapiens

<400> 146
 Met Leu Leu Phe Phe Val Leu Ser Phe Ile Ala Phe Pro Ser Ala Val
 1 5 10 15
 Asn Ile Met Thr Trp Gly Leu Gln His Pro Ser Ser Lys Pro Phe Pro
 20 25 30
 Lys Lys Val Lys Arg Ser Gln Asp Asp Trp His Leu Leu Leu Leu
 35 40 45
 Leu Phe Phe Leu Phe Pro Cys Pro Ala Pro Ser Cys Ala Cys Val Ser
 50 55 60
 Asp Asn Thr Gly Ala Ser Thr Gly Val Glu Asn Pro Ala Ala Gln Leu
 65 70 75 80
 Ser Ser Ala His Arg Ser Leu Gly Asn Gly Leu Ser Leu Cys Asn Lys
 85 90 95
 Lys Ile Phe Phe Phe Phe Leu Asn Leu His Tyr Ile Phe Phe Asp Cys
 100 105 110
 Leu

<210> 147
 <211> 2312
 <212> DNA
 <213> Homo sapiens

<220>
 <221> unsure
 <222> (2224)

<220>
 <221> unsure
 <222> (2236)

<400> 147
 gtttcggcct ggcctgggca ggcgcttgtg ctgccagggc gccgggcccc gggaggcccg 60
 ggtctcgggt ggccgcgggc ccaggcgctg gacggcagca ggatggggaa ggcgaaggtc 120
 cccgcctcca agcgcgcccc gagcagcccc gtggctaagc cgggtcctgt caagacgctc 180
 actcggaaga aaaacaagaa gaaaaaaagg ttttgaaaa gcaaggcgcg ggaagtaagc 240
 aagaagccag caagcgcccc cgggtgctgt gtgcgacctc caaaggcacc agaagacttt 300
 tctcaaaact ggaagcgct gcaagagtgg ctgctgaaac aaaaatctca ggcgccagaa 360
 aagcctcttg tcatctctca gatgggttcc aaaaagaagc ccaaattat ccagcaaaac 420
 aaaaaagaga cctcgctca agtgaaggga gaggagatgc cggcaggaaa agaccaggag 480
 gccagcagg gctctgttcc ttcaggttcc aagatggaca ggaggcgcc agtacctcg 540
 accaaggcca gtggaacaga gcacaataag aaaggaaacca aggaaaggac aaatgggtgat 600
 attgttccag aacgagggga catcgagcat aagaagcgga aagctaagga ggcagcccca 660
 gccccaccca ccgaggaaga catctggttt gacgacgtgg acccagcgga tatcgaagct 720
 gccataggtc cagagcgggc caagatagcg aggaaacagt tgggtcagag cgagggcagc 780
 gtcagcctca gcctcgtgaa agagcaggcc ttcggcgggc tgacaagagc cttagccttg 840
 gactgtgaga tggtagggcg gggccctaag ggggaggaga gcatggccgc ccgtgtgtcc 900
 atcgtgaacc agtatgggaa gtgcgtttat gacaagtacg tcaaaccaac cgagcccgctg 960
 acggactata ggacagcggg cagtgggatt cggcctgaga acctcaagca gggagaagag 1020
 cttgaagttg ttcagaagga agtggcagag atgctgaagg gcagaattct agtggggcac 1080
 gctctgcata atgacctaaa ggtactatct cttgatcatc caaaaaagaa gattcgggac 1140
 acacagaaat ataaaccttt caagagtcaa gtaagagtg gaaggccgtc tctgagacta 1200
 ctttcagaga agatccttgg gctccaggtc cagcaggcgg agcactgttc aattcaggat 1260
 gccagggcag caatgaggct gtacgtcatg gtgaagaagg agtgggagag catggcccga 1320
 gacaggcgcc ccctgctgac tgctccagac cactgcagtg acgacgccta gcagtcctgc 1380
 cctgctgctg ctgccgcccc gctacagagg caatgtgacc agtcacaggg acagatcaca 1440
 tctccccaga gtggcaactc tgggtgaaacc ttttcagaat catggcagag gggcgtggcg 1500
 tgggtctact gagaaggctc tccttcctct tgactttgtg gtctgaaacc tggctttact 1560
 gtccatgtgt gtttgggccc ggatggctcag ggtggggagc agggacggcc atgggcacgc 1620
 ctggccaagc tttaccgact gctgaccccc tgggccagggt gaggttgggg cctgtggggc 1680
 gccagtccat acgggtgctgt cactgcccac cttcggtgac accctggggg gaggtgctca 1740
 gcaccttctc ctcgaggagc cacattttcc tcctttgtgt taggggacat aacaagctct 1800
 gctgggcttg agggacccag accaggtgtc tgcagtcagc tcctgagaca cagctggccg 1860
 gcacaacagg tgttacatca ggggtttcct gtggccggtt gaactttgag catttatcta 1920
 aattaaattg gccaggggtt ggctggtggg tcaaccagca gaggtttctc cccatagcac 1980
 gaggatgtgt tgcctgggca cggtgactgc ggttattcct ggaggtcggc agacatgcca 2040
 accttgggct atttgagctg gagaagctat gtgatgctag ccggtggctt tctgggctag 2100
 gccccagttt gaggtcctcc tgggaactag agccaggaac agccagtggc actgacaagg 2160
 ggacggagtc caaggcggtt ttgggccacc tgacagctgg acagaaaagg ggcagacaca 2220
 ccnggatgct gatttnaaat aaatgcagat gtttacttgg aaaaaaaaaa aaaaaaaaaa 2280
 aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aa 2312

<210> 148
 <211> 422
 <212> PRT

<213> Homo sapiens

<400> 148

Met Gly Lys Ala Lys Val' Pro Ala Ser Lys Arg Ala Pro Ser Ser Pro
1 5 10 15

Val Ala Lys Pro Gly Pro Val Lys Thr Leu Thr Arg Lys Lys Asn Lys
20 25 30

Lys Lys Lys Arg Phe Trp Lys Ser Lys Ala Arg Glu Val Ser Lys Lys
35 40 45

Pro Ala Ser Gly Pro Gly Ala Val Val Arg Pro Pro Lys Ala Pro Glu
50 55 60

Asp Phe Ser Gln Asn Trp Lys Ala Leu Gln Glu Trp Leu Leu Lys Gln
65 70 75 80

Lys Ser Gln Ala Pro Glu Lys Pro Leu Val Ile Ser Gln Met Gly Ser
85 90 95

Lys Lys Lys Pro Lys Ile Ile Gln Gln Asn Lys Lys Glu Thr Ser Pro
100 105 110

Gln Val Lys Gly Glu Glu Met Pro Ala Gly Lys Asp Gln Glu Ala Ser
115 120 125

Arg Gly Ser Val Pro Ser Gly Ser Lys Met Asp Arg Arg Ala Pro Val
130 135 140

Pro Arg Thr Lys Ala Ser Gly Thr Glu His Asn Lys Lys Gly Thr Lys
145 150 155 160

Glu Arg Thr Asn Gly Asp Ile Val Pro Glu Arg Gly Asp Ile Glu His
165 170 175

Lys Lys Arg Lys Ala Lys Glu Ala Ala Pro Ala Pro Pro Thr Glu Glu
180 185 190

Asp Ile Trp Phe Asp Asp Val Asp Pro Ala Asp Ile Glu Ala Ala Ile
195 200 205

Gly Pro Glu Ala Ala Lys Ile Ala Arg Lys Gln Leu Gly Gln Ser Glu
210 215 220

Gly Ser Val Ser Leu Ser Leu Val Lys Glu Gln Ala Phe Gly Gly Leu
225 230 235 240

Thr Arg Ala Leu Ala Leu Asp Cys Glu Met Val Gly Val Gly Pro Lys
245 250 255

Gly Glu Glu Ser Met Ala Ala Arg Val Ser Ile Val Asn Gln Tyr Gly
260 265 270

Lys Cys Val Tyr Asp Lys Tyr Val Lys Pro Thr Glu Pro Val Thr Asp
275 280 285

Tyr Arg Thr Ala Val Ser Gly Ile Arg Pro Glu Asn Leu Lys Gln Gly
290 295 300

Glu Glu Leu Glu Val Val Gln Lys Glu Val Ala Glu Met Leu Lys Gly
305 310 315 320

Arg Ile Leu Val Gly His⁴ Ala Leu His Asn Asp Leu Lys Val Leu Phe
325 330 335

Leu Asp His Pro Lys Lys Lys Ile Arg Asp Thr Gln Lys Tyr Lys Pro
340 345 350

Phe Lys Ser Gln Val Lys Ser Gly Arg Pro Ser Leu Arg Leu Leu Ser
355 360 365

Glu Lys Ile Leu Gly Leu Gln Val Gln Gln Ala Glu His Cys Ser Ile
370 375 380

Gln Asp Ala Gln Ala Ala Met Arg Leu Tyr Val Met Val Lys Lys Glu
385 390 395 400

Trp Glu Ser Met Ala Arg Asp Arg Arg Pro Leu Leu Thr Ala Pro Asp
405 410 415

His Cys Ser Asp Asp Ala
420

<210> 149

<211> 2103

<212> DNA

<213> Homo sapiens

<400> 149

gggagggaacg tatcccttct ggaggctgtc tcagggggca gagggaccgg accggaagtg 60
acgtgagcgg gttccggttg tctggagccc agctgcgggt gtgagagtcc gtaaggagca 120
gcttccagga tctgagatc cggagcagcc ggggtcggag cggctcctca agagtactg 180
atctatgaaa tggcagagaa tggaaaaaat tgtgaccaga gacgtgtagc aatgaacaag 240
gaacatcata atggaaatct cacagacccc tcttcagtga atgaaaagaa gaggagggag 300
cgggaagaaa ggcagaatat tgtcctgttg agacagccgc tcattacctt gcagtatttt 360
tctctggaaa tctttgtaat cttgaaggaa tggacctcaa aattatggca tctgcaaage 420
attgtggtgt cttttttact gctgcttgct gtgcttatag ctacgtatta tgttgaagga 480
gtgcatcaac agtatgtgca acgtatagag aaacagtttc ttttgtatgc ctactggata 540
ggcttaggaa ttttgtcttc tgttgggctt ggaacagggc tgcacacctt tctgctttat 600
ctgggtccac atatagcctc agttacatta gctgcttatg aatgcaattc agttaatttt 660
cccgaaccac cctatcctga tcagattatt tgtccagatg aagagggcac tgaaggaacc 720
atctctttgt ggagtatcat ctcaaaagt aggtatgaag cctgcatgtg gggatcgggt 780
acagcaatcg gagagctgcc tccatatttc atggccagag cagctgcct ctcagggtgt 840
gaaccagatg atgaagagta tcaggaatct gaagagatgc tggaaacatgc agagtctgca 900
caagactttg cctcccgggc caaactggca gttcaaaaac tagtacagaa agttggattt 960
tttggaaatt tggcctgtgc ttcaattcca aatcctttat ttgatctggc tggaaataacg 1020
tgtggacact ttctggtacc tttttggacc ttctttggtg caacccta at tggaaaagca 1080
ataataaaaa tgcatatcca gaaaattttt gttataataa cattcagcaa gcacatagt 1140
gagcaaatgg tggctttcat tgggtctgtc cccggcatag gtccatctct gcagaagcca 1200
tttcaggagt acctggaggc tcaacggcag aagcttcacc acaaaagcga aatgggcaca 1260
ccacagggag aaaactgggt gtctcggatg tttgaaaagt tggctgtgt catggtgtgt 1320
tacttcatcc tatctatcat taactccatg gcacaaagt atgccaaacg aatccagcag 1380
cggttgaact cagaggagaa aactaaataa gtagagaaag ttttaaactg cagaaattgg 1440
agtggatggg ttctgcctta aattgggagg actccaagcc gggaaggaaa attccctttt 1500
ccaacctgta tcaattttta caactttttt cctgaaagca gtttagtcca tactttgcac 1560
tgacatactt tttccttctg tgctaaggta aggtatccac cctcgatgca atccaccttg 1620
gtttttctta ggttggaaat tgatgttcag cagcaaaact gcaacagact ggccttctgt 1680
ttgttacttt caaaaggccc acatgatata attagagaat tcccaccgca caaaaaaagt 1740

tcctaagtat gttaaataatg tcaagctttt taggcttgtc acaaatgatt gctttgtttt 1800
 cctaagtcac caaaatgtat ataaattatc tagattggat aacagtcttg catgtttatc 1860
 atgttacaat ttaatatcc atcctgccca acccttcctc tcccatcctc aaaaaagggc 1920
 cattttatga tgcattgcac abcctctggg gaaattgatc tttaaatttt gagacagtat 1980
 aaggaaaaatc tggttggtgt cttacaagtg agctgacacc attttttatt ctgtgtattt 2040
 agaatgaagt cttgaaaaaa actttataaa gacatcttta atcattccaa aaaaaaaaaa 2100
 aaa 2103

<210> 150

<211> 406

<212> PRT

<213> Homo sapiens

<400> 150

Met Ala Glu Asn Gly Lys Asn Cys Asp Gln Arg Arg Val Ala Met Asn
 1 5 10 15

Lys Glu His His Asn Gly Asn Phe Thr Asp Pro Ser Ser Val Asn Glu
 20 25 30

Lys Lys Arg Arg Glu Arg Glu Glu Arg Gln Asn Ile Val Leu Trp Arg
 35 40 45

Gln Pro Leu Ile Thr Leu Gln Tyr Phe Ser Leu Glu Ile Leu Val Ile
 50 55 60

Leu Lys Glu Trp Thr Ser Lys Leu Trp His Arg Gln Ser Ile Val Val
 65 70 75 80

Ser Phe Leu Leu Leu Leu Ala Val Leu Ile Ala Thr Tyr Tyr Val Glu
 85 90 95

Gly Val His Gln Gln Tyr Val Gln Arg Ile Glu Lys Gln Phe Leu Leu
 100 105 110

Tyr Ala Tyr Trp Ile Gly Leu Gly Ile Leu Ser Ser Val Gly Leu Gly
 115 120 125

Thr Gly Leu His Thr Phe Leu Leu Tyr Leu Gly Pro His Ile Ala Ser
 130 135 140

Val Thr Leu Ala Ala Tyr Glu Cys Asn Ser Val Asn Phe Pro Glu Pro
 145 150 155 160

Pro Tyr Pro Asp Gln Ile Ile Cys Pro Asp Glu Glu Gly Thr Glu Gly
 165 170 175

Thr Ile Ser Leu Trp Ser Ile Ile Ser Lys Val Arg Ile Glu Ala Cys
 180 185 190

Met Trp Gly Ile Gly Thr Ala Ile Gly Glu Leu Pro Pro Tyr Phe Met
 195 200 205

Ala Arg Ala Ala Arg Leu Ser Gly Ala Glu Pro Asp Asp Glu Glu Tyr
 210 215 220

Gln Glu Phe Glu Glu Met Leu Glu His Ala Glu Ser Ala Gln Asp Phe
 225 230 235 240

Ala Ser Arg Ala Lys Leu Ala Val Gln Lys Leu Val Gln Lys Val Gly

ctctttatcg agagtactag aagtttaaatt aataaataat gcatttaatg aggcaaaaaa 1320
 aaaaaaaaaa 1330

<210> 152
 <211> 245
 <212> PRT
 <213> Homo sapiens

<400> 152
 Met Gln Trp Leu Asn Thr Met Lys Glu Leu Ala Leu Gly Val Arg Thr
 1 5 10 15
 Ser Lys Thr Cys Thr Phe Ser Ala Ala Met Thr Thr Met Gln Gly Met
 20 25 30
 Glu Gln Ala Met Pro Gly Ala Gly Pro Gly Val Pro Gln Leu Gly Asn
 35 40 45
 Met Ala Val Ile His Ser His Leu Trp Lys Gly Leu Gln Glu Lys Phe
 50 55 60
 Leu Lys Gly Glu Pro Lys Val Leu Gly Val Val Gln Ile Leu Thr Ala
 65 70 75 80
 Leu Met Ser Leu Ser Met Gly Ile Thr Met Met Cys Met Ala Ser Asn
 85 90 95
 Thr Tyr Gly Ser Asn Pro Ile Ser Val Tyr Ile Gly Tyr Thr Ile Trp
 100 105 110
 Gly Ser Val Met Phe Ile Ile Ser Gly Ser Leu Ser Ile Ala Ala Gly
 115 120 125
 Ile Arg Thr Thr Lys Gly Leu Val Arg Gly Ser Leu Gly Met Asn Ile
 130 135 140
 Thr Ser Ser Val Leu Ala Ala Ser Gly Ile Leu Ile Asn Thr Phe Ser
 145 150 155 160
 Leu Ala Phe Tyr Ser Phe His His Pro Tyr Cys Asn Tyr Tyr Gly Asn
 165 170 175
 Ser Asn Asn Cys His Gly Thr Met Ser Ile Leu Met Gly Leu Asp Gly
 180 185 190
 Met Val Leu Leu Leu Ser Val Leu Glu Phe Cys Ile Ala Val Ser Leu
 195 200 205
 Ser Ala Phe Gly Cys Lys Val Leu Cys Cys Thr Pro Gly Gly Val Val
 210 215 220
 Leu Ile Leu Pro Ser His Ser His Met Ala Glu Thr Ala Ser Pro Thr
 225 230 235 240
 Pro Leu Asn Glu Val
 245

<210> 153
 <211> 1724

<212> DNA
 <213> Homo sapiens

<400> 153
 cggttctctcc tccttctctcc ccgctctccag ctgccggcag gaccttttctc tcgctgccgc 60
 tgggaccccg tgcacatgcc caggccgagc acgatgcccc ctaaaaaggg aggtgatgga 120
 attaaaccac cccaatcat tggaagattt ggaacctcac tgaaaattgg tattgttgga 180
 ttgccaaatg ttgggaaatc tactttcttc aatgtgttaa ccaatagtca ggcttcagca 240
 gaaaacttcc cgttctgcac tattgatcct aatgagagca gactacctgt gccagatgaa 300
 aggttttgact ttctttgtca ataccacaaa ccagcaagca aaattcctgc ctttctaaat 360
 gtggtggata ttgctggcct tgtgaaagga gtcacaaatg ggcagggcct ggggaatgct 420
 tttttatctc atattagtgc ctgtgatggc atctttcatc taacacgtgc ttttgaagat 480
 gatgatatac cgacagtga aggaagtgtg gatcctattc gagatataga aataatacat 540
 gaagagcttc agcttaaaga tgaggaaatg attgggcccc ttatagataa actagaaaag 600
 gtggctgtga gaggaggaga taaaaaacta aaacctgaat atgatataat gtgcaaagta 660
 aaatcctggg ttatagatca aaagacacct gttcgcttct atcatgattg gaatgacaaa 720
 gagattgaag tgttgaatac acacttattt ttgacttcaa aaccaatggg ctacttggtt 780
 aatctttctg aaaaagacta cattagaaag aaaaacaaat ggttgataaa aattaaagag 840
 tgggtggaca agtatgacct aggtgctttg gtcattcctt ttagtggggc cttggaactc 900
 aagttgcaag aattgagtgc tgaggagaga cagaagtatc tggaagcgaa catgacacaa 960
 agtgctttgc caagatcat taaggctggg tttgcagcac tccaactaga atacttttct 1020
 actgcaggcc cagatgaagt gcgtgcatgg accatcagga aagggactaa ggctcctcag 1080
 gctgcaggaa agattcacac agattttgaa aagggtattc ttatggctga agtaatgaaa 1140
 tacgaagatt ttaaagagga aggttctgaa aatgcagtca aggtgctgg aaagtacaga 1200
 caacaaggca gaaattatat tgttgaagat ggagatatta tcttcttcaa atttaacaca 1260
 cctcaacaac cgaagaagaa ataaaattta gttattgctc agataaacat acaacttcca 1320
 aaaggcatct gattttttaa aaattaaaaat ttctgaaaac caatgcgaca aataaagtgt 1380
 gggagatggg aatctttgac aaacaaatta tttttatttg ttttaaaatt aaaatactgt 1440
 gtaccccccc ccccccatg aaatgcaggt tcaactaaatg tgaacagctt tgcttttcac 1500
 gtgattaaga cctactcca aattgtagaa gcttttcagg aaccatatta ctctcatgat 1560
 acttcattaa tctccatcat gtatgccaa cctgacacat ttgacagtga ggacaatgtg 1620
 gcttgctcct ttttgaatct acagataatg catgttttac agtactccag atgtctacac 1680
 tcaataaaac atttgacaaa accaaaaaaa aaaaaaaaaa aaaa 1724

<210> 154
 <211> 396
 <212> PRT
 <213> Homo sapiens

<400> 154
 Met Pro Pro Lys Lys Gly Gly Asp Gly Ile Lys Pro Pro Pro Ile Ile
 1 5 10 15
 Gly Arg Phe Gly Thr Ser Leu Lys Ile Gly Ile Val Gly Leu Pro Asn
 20 25 30
 Val Gly Lys Ser Thr Phe Phe Asn Val Leu Thr Asn Ser Gln Ala Ser
 35 40 45
 Ala Glu Asn Phe Pro Phe Cys Thr Ile Asp Pro Asn Glu Ser Arg Val
 50 55 60
 Pro Val Pro Asp Glu Arg Phe Asp Phe Leu Cys Gln Tyr His Lys Pro
 65 70 75 80
 Ala Ser Lys Ile Pro Ala Phe Leu Asn Val Val Asp Ile Ala Gly Leu
 85 90 95
 Val Lys Gly Ala His Asn Gly Gln Gly Leu Gly Asn Ala Phe Leu Ser
 100 105 110

His Ile Ser Ala Cys Asp Gly Ile Phe His Leu Thr Arg Ala Phe Glu
 115 120 125
 Asp Asp Asp Ile Thr His Val Glu Gly Ser Val Asp Pro Ile Arg Asp
 130 135 140
 Ile Glu Ile Ile His Glu Glu Leu Gln Leu Lys Asp Glu Glu Met Ile
 145 150 155 160
 Gly Pro Ile Ile Asp Lys Leu Glu Lys Val Ala Val Arg Gly Gly Asp
 165 170 175
 Lys Lys Leu Lys Pro Glu Tyr Asp Ile Met Cys Lys Val Lys Ser Trp
 180 185 190
 Val Ile Asp Gln Lys Thr Pro Val Arg Phe Tyr His Asp Trp Asn Asp
 195 200 205
 Lys Glu Ile Glu Val Leu Asn Thr His Leu Phe Leu Thr Ser Lys Pro
 210 215 220
 Met Val Tyr Leu Val Asn Leu Ser Glu Lys Asp Tyr Ile Arg Lys Lys
 225 230 235 240
 Asn Lys Trp Leu Ile Lys Ile Lys Glu Trp Val Asp Lys Tyr Asp Pro
 245 250 255
 Gly Ala Leu Val Ile Pro Phe Ser Gly Ala Leu Glu Leu Lys Leu Gln
 260 265 270
 Glu Leu Ser Ala Glu Glu Arg Gln Lys Tyr Leu Glu Ala Asn Met Thr
 275 280 285
 Gln Ser Ala Leu Pro Lys Ile Ile Lys Ala Gly Phe Ala Ala Leu Gln
 290 295 300
 Leu Glu Tyr Phe Phe Thr Ala Gly Pro Asp Glu Val Arg Ala Trp Thr
 305 310 315 320
 Ile Arg Lys Gly Thr Lys Ala Pro Gln Ala Ala Gly Lys Ile His Thr
 325 330 335
 Asp Phe Glu Lys Gly Phe Ile Met Ala Glu Val Met Lys Tyr Glu Asp
 340 345 350
 Phe Lys Glu Glu Gly Ser Glu Asn Ala Val Lys Ala Ala Gly Lys Tyr
 355 360 365
 Arg Gln Gln Gly Arg Asn Tyr Ile Val Glu Asp Gly Asp Ile Ile Phe
 370 375 380
 Phe Lys Phe Asn Thr Pro Gln Gln Pro Lys Lys Lys
 385 390 395

<210> 155

<211> 2291

<212> DNA

<213> Homo sapiens

<400> 155

```

gaacttgctt gaagcccttg tccgtaagcc ttgaactacg ttcttaaate tatgaagtcg 60
agggaccttt cgctgctttt gtagggactt ctttccttgc ttcagcaaca tgaggctttt 120
cttgtggaac gcggtcttga ctctgttcgt cacttctttg attggggctt tgatccctga 180
accagaagtg aaaattgaag ttctccagaa gccattcatc tgccatcgca agaccaaagg 240
aggggatttg atgttggtcc actatgaagg ctacttagaa aaggacggct ccttatttca 300
ctccactcac aaacataaca atggtcagcc catttggttt accctgggca tcctggaggc 360
tctcaaaggc tgggaccagg gcttgaaagg aatgtgtgta ggagagaaga gaaagctcat 420
cattcctect gctctgggct atggaaaaga aggaaaaggc aaaattcccc cagaaagtac 480
actgatattt aatattgatc tcctggagat tcgaaaatga ccaagatccc atgaatcatt 540
ccaagaaatg gatcttaatg atgactggaa actctctaaa gatgagggtt aagcatattt 600
aaagaaggag tttgaaaaac atgggtcggt ggtgaatgaa agtcatcatg atgctttggt 660
ggaggatatt tttgataaag aagatgaaga caaagatggg tttatatctg ccagagaatt 720
tacatataaa cacgatgagt tatagagata catctaccct tttaatatag cactcatctt 780
tcaagagagg gcagtcactt ttaaagaaca ttttattttt atacaatgct ctttcttgct 840
ttgcttttta tttttatata tttttcttga ctctatttta aagaaccctt taggtttcta 900
agtacccatt tctttctgat aagttattgg gaagaaaaag ctaattggct tttgaataga 960
agacttcttg acaatttttc actttcacag atatgaagct ttgttttact ttctcactta 1020
taaatttaaa atgttgcaac tgggaatata ccacgacatg agaccagggt atagcacaaa 1080
ttagcaccct atatttctgc ttccctctat tttctccaag ttagagggtc acatttgaaa 1140
agccttttgc aatagcccaa ggcttgctat tttcatgtta taatgaaata gtttatgtgt 1200
aactggctct gagtctctgc ttgaggacca gaggaaaatg gttgttggtc ctgacttggt 1260
aatggctact gctttactaa ggagatgtgc aatgctgaag ttagaacaa ggtaaatagc 1320
caggcatggg ggctcatgcc tgtaatccca gcactttggg aggctgaggc gggcggtatc 1380
cctgaggttg ggagtctgag accagcctga ccaacacgga gaaaccctat ctctactaaa 1440
aatacaaaag tagccgggag tggatgatgc tgcctgtaat ccagctacc cagggaaggc 1500
gaggcgagcag aatcacttga acccgaggc ggaggttgcg gtaagccgag atcacctcca 1560
gcctggacac tctgtctcga aaaaaagaaa agaaacacgg ttaataacat ataaatatgt 1620
atgcattgag acatgctacc taggacttaa gctgatgaag cttggctcct agtgattggt 1680
ggcctattat gataaatagg acaaatcatt tatgtgtgag tttctttgta ataaaatgta 1740
tcaatatggt atagatgagg tagaaagtta tatttatatt caatatttac ttcttaaggc 1800
tagcgaataa tcttctctgg ttctttaatg ggtagtctat agtatattat actacaataa 1860
cattgtatca taagataaag tagtaaacca gtctacattt tcccatttct gtctcatcaa 1920
aaactgaagt tagctgggtg tgggtggtc tgcctgtaat ccagcactt tgggggcca 1980
ggaggggtga tcacttgaga tcaggagttc aagaccagcc tggccaacat ggtgaaacct 2040
tgtctctact aaaaaataca aaattagcca ggcgtgggtg tgcacacctg tagtcccagc 2100
tactcgggag gctgagacag gagatttgct tgaacccggg aggcggagggt tgcagtgagc 2160
caagattgtg ccactgcact ccagcctggg tgacagagca agactccatc tcaaaaaaaa 2220
aaaaaagaag cagacctaca gcagctacta ttgaataaat acctatcctg gattttaaaa 2280
aaaaaaaaa a 2291

```

<210> 156

<211> 211

<212> PRT

<213> Homo sapiens

<400> 156

```

Met Arg Leu Phe Leu Trp Asn Ala Val Leu Thr Leu Phe Val Thr Ser
  1           5           10          15

Leu Ile Gly Ala Leu Ile Pro Glu Pro Glu Val Lys Ile Glu Val Leu
      20           25           30

Gln Lys Pro Phe Ile Cys His Arg Lys Thr Lys Gly Gly Asp Leu Met
      35           40           45

Leu Val His Tyr Glu Gly Tyr Leu Glu Lys Asp Gly Ser Leu Phe His
      50           55           60

```

Ser Thr His Lys His Asn Asn Gly Gln Pro Ile Trp Phe Thr Leu Gly
 65 70 75 80
 Ile Leu Glu Ala Leu Lys Gly Trp Asp Gln Gly Leu Lys Gly Met Cys
 85 90 95
 Val Gly Glu Lys Arg Lys Leu Ile Ile Pro Pro Ala Leu Gly Tyr Gly
 100 105 110
 Lys Glu Gly Lys Gly Lys Ile Pro Pro Glu Ser Thr Leu Ile Phe Asn
 115 120 125
 Ile Asp Leu Leu Glu Ile Arg Asn Gly Pro Arg Ser His Glu Ser Phe
 130 135 140
 Gln Glu Met Asp Leu Asn Asp Asp Trp Lys Leu Ser Lys Asp Glu Val
 145 150 155 160
 Lys Ala Tyr Leu Lys Lys Glu Phe Glu Lys His Gly Ala Val Val Asn
 165 170 175
 Glu Ser His His Asp Ala Leu Val Glu Asp Ile Phe Asp Lys Glu Asp
 180 185 190
 Glu Asp Lys Asp Gly Phe Ile Ser Ala Arg Glu Phe Thr Tyr Lys His
 195 200 205
 Asp Glu Leu
 210

<210> 157
 <211> 2229
 <212> DNA
 <213> Homo sapiens

<400> 157
 gaagacgttg acacacttgg agccaacaag aacattagtc atgacaagca tgccatctga 60
 aaagcagaat gtcgtcatcc aggttggtga taaattgaaa ggcttttcaa ttgcaccaga 120
 cgtctgtgag accacgactc acgtgctttc cggaagacca ctgcgacccc tgaatgtgct 180
 gctgggaatt gcgcgtggct gctgggttct ctcttatgat tgggtgctat ggtctttaga 240
 attgggtcac tggatttctg aggagccgtt cgaactgtct caccacttcc ctgcagctcc 300
 cctgtgccga agcgagtgcc acttgtctgc agggccgtac cgcggaaccc tctttgccga 360
 ccagccagcg atgtttgtct cgctgccag cagcccccca gtggccaagc tctgtgaact 420
 agtccacctg tgcggaggcc gggtcagcca agtccccgc caggccagca tcgtcatcgg 480
 gccctacagc ggaaagaaga aagccacagt caagtatctg tctgagaaat gggtcttagg 540
 taagaatcca ggcacacaga cgctgtgggt tgggtccagat ctgtggacag gtttccaggg 600
 agggcggtc caggctcaca ccccttcca cgagctggg gcacctgggt tgatgtctca 660
 gcctccagca tctgccctgg cagcgtctgt tggtcaccct cggcattccc gctccttgct 720
 gttagcagac gtacagtcca cgaggaaatg ggaactctaa ctggacttcc ccacttgact 780
 tccctggctc gtgtgaaaaa tccaggctac ccaaagccac cccgggccac cctgtgggc 840
 acagactctc cgggcacccc tcttagacce tccctcccca gtgcctcett gtcctgcttc 900
 aggagtcctt ggcagcgccc ggcactgggg cccaagcccc cgctccctgtc atctcctctc 960
 ccaggtagat ctcagtatca ctccgtctgc tcatgtgtctc aaaggggtgtt aaaagacgtc 1020
 aaacgactcc atcttttatt tgacaaagt agcacagtgt gaccgtaatg tccactctg 1080
 gcgttcattg agctgcgcca ggccgctgt gcgattctgg ggaggaagag gtggtaggag 1140
 ctgagctgag atcgaggagg gctggaacct cagcgcgtgc taacacacgg gctccaggag 1200
 acttgcaggt gatccccgga gaagagggtt aaggaagagt gtgaagcaag gacggcctgg 1260
 ggaatgcgga ggaagcaggg cagcgtctgt gctagaaatt acctgccctg tgggtggagtc 1320
 atatgtggcg ggacaagcct agggctccac tgtggggaaa tcccacaccc tctccatgg 1380

```

ggttgtgata aacatgtag tttgcttggg ctgccatcgc aaaatactac .aggctgggtg 1440
gcttcaaaca acacgcattg tctctcagtt ctggaggctg gaagtotaag atgggggtatc 1500
ggcagcggtg gtttccccctg aggcctctct cctgggcttg cagacagctg ccttcttctc 1560
gtgacctcac gtggccttcc ctccatgcac acacatccct ggtatctctg tgtgtgtcca 1620
aatgttctct tctctaagga taccagtcag attggattag ggctcaccga gtggcatcat 1680
tttaacttgt ctttttcaag gcccatctc caaatacagt ctcatcctga gttactgagg 1740
gtaagacat cgacatacga attttgggca gacacaattc agcccataac aatgaatcac 1800
tctagtttca gcccttggg ccaagatcct taccgactt tagaggtaga tcccctctct 1860
ctctctcaat ctctctctct ctctcccggt ctctcattct ttttctctct ctttgcttcc 1920
atctccttcc atgtttccta ttcagtctcc tttcttagta cttttgcatg tctctaaatc 1980
ctaaacttct ggcttttctc atcatctgct caacattatc ctttaataga caagtagata 2040
ctgtgtttgt tcaagttaca ttcgatatca actacggaca ttttacaagt atcttttaca 2100
tgactgatgg tcaccttttc atatatttta gaagtgtggc aatcaaaagt aattttttac 2160
tctggtgcag agtaattcat cttttgcctg gaaaccaact tccaaaaaaa aaaaaaaaaa 2220
aaaaaaaaa 2229

```

<210> 158

<211> 239

<212> PRT

<213> Homo sapiens

<400> 158

```

Met Thr Ser Met Pro Ser Glu Lys Gln Asn Val Val Ile Gln Val Val
 1             5             10             15

Asp Lys Leu Lys Gly Phe Ser Ile Ala Pro Asp Val Cys Glu Thr Thr
      20             25             30

Thr His Val Leu Ser Gly Lys Pro Leu Arg Thr Leu Asn Val Leu Leu
      35             40             45

Gly Ile Ala Arg Gly Cys Trp Val Leu Ser Tyr Asp Trp Val Leu Trp
      50             55             60

Ser Leu Glu Leu Gly His Trp Ile Ser Glu Glu Pro Phe Glu Leu Ser
      65             70             75             80

His His Phe Pro Ala Ala Pro Leu Cys Arg Ser Glu Cys His Leu Ser
      85             90             95

Ala Gly Pro Tyr Arg Gly Thr Leu Phe Ala Asp Gln Pro Ala Met Phe
      100            105            110

Val Ser Pro Ala Ser Ser Pro Pro Val Ala Lys Leu Cys Glu Leu Val
      115            120            125

His Leu Cys Gly Gly Arg Val Ser Gln Val Pro Arg Gln Ala Ser Ile
      130            135            140

Val Ile Gly Pro Tyr Ser Gly Lys Lys Lys Ala Thr Val Lys Tyr Leu
      145            150            155            160

Ser Glu Lys Trp Val Leu Gly Lys Asn Pro Gly Thr Gln Thr Leu Trp
      165            170            175

Cys Gly Pro Asp Leu Trp Thr Gly Phe Gln Gly Gly Arg Arg Gln Ala
      180            185            190

His Thr Pro Phe His Ala Ala Gly Ala Pro Gly Leu Met Ser Gln Pro
      195            200            205

```

Pro Ala Ser Ala Leu Ala Ala Ser Cys Gly His Pro Arg His Ser Arg
 210 215 220

Ser Leu Leu Leu Ala Asp Val Gln Phe Thr Arg Lys Trp Glu Leu
 225 230 235

<210> 159
 <211> 3580
 <212> DNA
 <213> Homo sapiens

<400> 159
 aggtctagaa gtgccccaaag ccccatcatg gaagagggct tccgagaccg ggcagctttc 60
 atccgtgggg ccaaagacat tgctaaggaa gtcaaaaagc atgcggccaa gaaggtgggtg 120
 aagggcctgg acagagtcca ggacgaatat tccgaagat cgtactcccg ctttgaggag 180
 gaggatgatg atgatgactt ccctgctccc agtgaagggtt attaccacag agaagggacc 240
 caggatgagg aggaaggtgg tgcattccagt gatgctactg agggccatga cgaggatgat 300
 gacatctatg aaggggaata tcagggcatt ccccgggcag agtctggggg caaaggcgag 360
 cggtatggcag atggggcgcc cctggctgga gtaagggggg gcttgagtga tggggagggt 420
 cccctgggg gcccggggga ggcacaacga cggaaagaac gagaagaact ggccaacag 480
 tatgaagcca tcctacggga gtgtggccac ggccgcttcc agtggacact gtattttgtg 540
 ctgggtctgg cgctgatggc tgacgggtgtg gaggtctttg tgggtgggctt cgtgctgccc 600
 agcgctgaga aagacatgtg cctgtccgac tccaacaaag gcatgctagg cctcatcgtc 660
 tacctgggca tgatgggtgg agccttcctc tggggagggtc tggctgaccg gctgggtcgg 720
 aggcagtgtc tgcctcatctc gctctcagtc aacagcgtct tcgccttctt ctcatctttt 780
 gtccagggtt acggcacttt cctcttctgc cgctacttt ctgggggttg gattggaggg 840
 tccatcccca ttgtctctc ctatttctcc gatttcttg cccaggagaa acgaggggag 900
 catttgagct ggctctgcat gttttggatg attgggtggc tgtacgcagc tgctatggcc 960
 tgggccatca tccccacta tgggtggagt ttccagatgg gttctgcta ccagttccac 1020
 agctggaggg tcttcgtcct cgtctgcgc tttccttctg tgtttgccat tggggctctg 1080
 accacgcagc ctgagagccc ccgtttcttc ctagagaatg gaaagcatga tgaggcctgg 1140
 atggtgtgta agcaggtcca tgataccaac atgcgagcca aaggacatcc tgagcgagtg 1200
 ttctcagtaa cccacattaa gacgattcat caggaggatg aattgattga gatccagtcg 1260
 gacacaggga cctggatcca gcgctggggg gtccgggcct tgagcctagg ggggcagggt 1320
 tgggggaatt ttctctcctg ttttgggtccc gaatatcggc gcatcactct gatgatgatg 1380
 ggtgtgtggt tcaccatgtc attcagctac tatggccta ccgtctggtt tccctgacatg 1440
 atccgccatc tccaggcagt ggactacgca tcccgcacca aagtgttccc cggggagcgc 1500
 gtagagcatg taacttttaa cttcacgttg gagaatcaga tccaccgagg cgggcagtac 1560
 tcaatgaca agttcattgg gctgcggtc aagtcagtg cttttgagga ttccctgttt 1620
 gaagagtgtt attttgagga tgcacatcc agcaacacgt ttttccgcaa ctgcacattc 1680
 atcaacactg tgttctataa cactgacctg ttcgagtaca agtttgtgaa cagccgtctg 1740
 ataaacagta cattcctgca caacaaggag ggctgcccgc tagacgtgac agggacgggc 1800
 gaaggtgcct acatggtata ctttgtgagc ttcttgggga cactggcagt gcttctctgg 1860
 aatatcgtgt ctgccctgct catggacaag atcggcaggc tcagaatgct tgctggctcc 1920
 agcgtgatgt cctgtgtctc ctgcttcttc ctgtcttttg ggaacagtga gtcggccatg 1980
 atcgtctctg tctgcctttt tggcggggtc agcattgcat cctggaatgc gctggacgtg 2040
 ttgactgttg aactttaccc ctacagacaag aggaccacag cttttggctt cctgaatgcc 2100
 ctgtgtaagc tggcagctgt gctggggatc agcatcttca catccttctg gggaatcacc 2160
 aaggtctcac ccactcctt tgctcagct gcccttgccc ttggcagctc tctggccctg 2220
 aagctgcctg agaccgggg gacaggtgctg cagtgaaggg gtctctaggg ctttgggatt 2280
 ggcaggcaca ctgtgagacc aacaactcct tccttcccct ccttgcctg ccactcctgac 2340
 ctccagagcc ctactcccc actccccgtg tttggtgtct tagctgtgtg tgcgtgtgctg 2400
 tgtgcatgtg tgaatacccc gtgggcaggg actacaggga aggtccttcc atcccagttt 2460
 tgagatgaag ctgtactccc catttcccac tgcccttgac tttgcacaag agaaggctga 2520
 gcccctcct tctccccctg ttagagaggg gcccttgctt cctgtttcca ggggttccag 2580
 aataggcttc ctgccttccc catcattccc tctgctagg ccctggtgaa accacaggta 2640
 tgcaattatg ctaggggctg gggctctggt gtagaccatg gaccaaaaga acttcttaga 2700
 gtctgaagag tgggcctcgg gtgccctctc acatctctct ttggatgctg ggggagaagc 2760

```

aataaacctc agccctctgg cctccacttt cctctcaatt tgggctgcaa atatgaagcc 2820
tgaattttat gaaattagct ttctgattct tatttattaa tagattaagt tctgaggcag 2880
ctccgcagga ctgtgtgtga atgtgtatgt atacttacat atgtgtgtgc atgtgccatg 2940
gggcgggggg tatcactata ctgtcctcaa atataagcca agggtaattt cagcggatgc 3000
acacacaacc ctgcctccca cagttcctcc cctaattctgg tttctgtgtt gagcctggga 3060
tggaggagcc ctaggccagc ctgggataag agtcccacag tctagggaga tctgagggca 3120
tccgacaagg cccatctcct tccctcctca agaagcagag gcctcctctg gagtgaagag 3180
ctccaccacac tacagcacag gcgggaatag cacagctgcc ctcccatgct ccctacctgt 3240
cccctcacag ggaggggagc aggggagggg aagaaaccag gcatctgggc aaaccagcag 3300
atcaaaaagc acaaagagct ggggcagagg caggaagcag gggccctcct ggcagctcct 3360
ctgagtgggg agaggttggg cagtgaagta gggaccctta atgcaggagc tagaagcctc 3420
agtttcccca ttttaccctt ccacacaata gcctctgtag gttaggctgc cccatcccac 3480
cctactctgt gtggctgctt tctttgtgtc cctccctca cccactgta gctgtgacgt 3540
gttgtagttt ttagatgttt gtaaaatggt taaaaaatg 3580

```

<210> 160

<211> 742

<212> PRT

<213> Homo sapiens

<400> 160

```

Met Glu Glu Gly Phe Arg Asp Arg Ala Ala Phe Ile Arg Gly Ala Lys
  1             5             10             15

Asp Ile Ala Lys Glu Val Lys Lys His Ala Ala Lys Lys Val Val Lys
      20             25             30

Gly Leu Asp Arg Val Gln Asp Glu Tyr Ser Arg Arg Ser Tyr Ser Arg
      35             40             45

Phe Glu Glu Glu Asp Asp Asp Asp Phe Pro Ala Pro Ser Asp Gly
      50             55             60

Tyr Tyr Pro Gly Glu Gly Thr Gln Asp Glu Glu Glu Gly Gly Ala Ser
      65             70             75             80

Ser Asp Ala Thr Glu Gly His Asp Glu Asp Asp Asp Ile Tyr Glu Gly
      85             90             95

Glu Tyr Gln Gly Ile Pro Arg Ala Glu Ser Gly Gly Lys Gly Glu Arg
      100            105            110

Met Ala Asp Gly Ala Pro Leu Ala Gly Val Arg Gly Gly Leu Ser Asp
      115            120            125

Gly Glu Gly Pro Pro Gly Gly Arg Gly Glu Ala Gln Arg Arg Lys Glu
      130            135            140

Arg Glu Glu Leu Ala Gln Gln Tyr Glu Ala Ile Leu Arg Glu Cys Gly
      145            150            155            160

His Gly Arg Phe Gln Trp Thr Leu Tyr Phe Val Leu Gly Leu Ala Leu
      165            170            175

Met Ala Asp Gly Val Glu Val Phe Val Val Gly Phe Val Leu Pro Ser
      180            185            190

Ala Glu Lys Asp Met Cys Leu Ser Asp Ser Asn Lys Gly Met Leu Gly
      195            200            205

```

Leu Ile Val Tyr Leu Gly Met Met Val Gly Ala Phe Leu Trp Gly Gly
 210 215 220
 Leu Ala Asp Arg Leu Gly Arg Arg Gln Cys Leu Leu Ile Ser Leu Ser
 225 230 235 240
 Val Asn Ser Val Phe Ala Phe Phe Ser Ser Phe Val Gln Gly Tyr Gly
 245 250 255
 Thr Phe Leu Phe Cys Arg Leu Leu Ser Gly Val Gly Ile Gly Gly Ser
 260 265 270
 Ile Pro Ile Val Phe Ser Tyr Phe Ser Glu Phe Leu Ala Gln Glu Lys
 275 280 285
 Arg Gly Glu His Leu Ser Trp Leu Cys Met Phe Trp Met Ile Gly Gly
 290 295 300
 Val Tyr Ala Ala Ala Met Ala Trp Ala Ile Ile Pro His Tyr Gly Trp
 305 310 315 320
 Ser Phe Gln Met Gly Ser Ala Tyr Gln Phe His Ser Trp Arg Val Phe
 325 330 335
 Val Leu Val Cys Ala Phe Pro Ser Val Phe Ala Ile Gly Ala Leu Thr
 340 345 350
 Thr Gln Pro Glu Ser Pro Arg Phe Phe Leu Glu Asn Gly Lys His Asp
 355 360 365
 Glu Ala Trp Met Val Leu Lys Gln Val His Asp Thr Asn Met Arg Ala
 370 375 380
 Lys Gly His Pro Glu Arg Val Phe Ser Val Thr His Ile Lys Thr Ile
 385 390 395 400
 His Gln Glu Asp Glu Leu Ile Glu Ile Gln Ser Asp Thr Gly Thr Trp
 405 410 415
 Tyr Gln Arg Trp Gly Val Arg Ala Leu Ser Leu Gly Gly Gln Val Trp
 420 425 430
 Gly Asn Phe Leu Ser Cys Phe Gly Pro Glu Tyr Arg Arg Ile Thr Leu
 435 440 445
 Met Met Met Gly Val Trp Phe Thr Met Ser Phe Ser Tyr Tyr Gly Leu
 450 455 460
 Thr Val Trp Phe Pro Asp Met Ile Arg His Leu Gln Ala Val Asp Tyr
 465 470 475 480
 Ala Ser Arg Thr Lys Val Phe Pro Gly Glu Arg Val Glu His Val Thr
 485 490 495
 Phe Asn Phe Thr Leu Glu Asn Gln Ile His Arg Gly Gly Gln Tyr Phe
 500 505 510
 Asn Asp Lys Phe Ile Gly Leu Arg Leu Lys Ser Val Ser Phe Glu Asp
 515 520 525

Ser Leu Phe Glu Glu Cys Tyr Phe Glu Asp Val Thr Ser Ser Asn Thr
 530 535 540
 Phe Phe Arg Asn Cys Thr Phe Ile Asn Thr Val Phe Tyr Asn Thr Asp
 545 550 555 560
 Leu Phe Glu Tyr Lys Phe Val Asn Ser Arg Leu Ile Asn Ser Thr Phe
 565 570 575
 Leu His Asn Lys Glu Gly Cys Pro Leu Asp Val Thr Gly Thr Gly Glu
 580 585 590
 Gly Ala Tyr Met Val Tyr Phe Val Ser Phe Leu Gly Thr Leu Ala Val
 595 600 605
 Leu Pro Gly Asn Ile Val Ser Ala Leu Leu Met Asp Lys Ile Gly Arg
 610 615 620
 Leu Arg Met Leu Ala Gly Ser Ser Val Met Ser Cys Val Ser Cys Phe
 625 630 635 640
 Phe Leu Ser Phe Gly Asn Ser Glu Ser Ala Met Ile Ala Leu Leu Cys
 645 650 655
 Leu Phe Gly Gly Val Ser Ile Ala Ser Trp Asn Ala Leu Asp Val Leu
 660 665 670
 Thr Val Glu Leu Tyr Pro Ser Asp Lys Arg Thr Thr Ala Phe Gly Phe
 675 680 685
 Leu Asn Ala Leu Cys Lys Leu Ala Ala Val Leu Gly Ile Ser Ile Phe
 690 695 700
 Thr Ser Phe Val Gly Ile Thr Lys Ala Ala Pro Ile Leu Phe Ala Ser
 705 710 715 720
 Ala Ala Leu Ala Leu Gly Ser Ser Leu Ala Leu Lys Leu Pro Glu Thr
 725 730 735
 Arg Gly Gln Val Leu Gln
 740

<210> 161
 <211> 29
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> oligonucleotide

<220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue

<400> 161
 cnccaagcag gggaacggtg agagaaaca

<210> 162

<211> 29
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> oligonucleotide
 <220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue
 <400> 162
 cnagcacaaa acacaaagct gcaaaagcc 29
 <210> 163
 <211> 29
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> oligonucleotide
 <220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue
 <400> 163
 gntgagtttag tgaccacaaa gatgcgctt 29
 <210> 164
 <211> 29
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> oligonucleotide
 <220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue
 <400> 164
 gncatcggtcc tcctccttca acatcccag 29
 <210> 165
 <211> 29
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> oligonucleotide
 <220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue

<400> 165
 gngtttcaga aaattccata cagacctca 29

<210> 166
 <211> 29
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> oligonucleotide

<220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue

<400> 166
 angacattga gatgttcctt gaggccagc 29

<210> 167
 <211> 29
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> oligonucleotide

<220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue

<400> 167
 tngtggttcc aaagtacggg ccattcctga 29

<210> 168
 <211> 29
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> oligonucleotide

<220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue

<400> 168
 tncagcatcc gtagcacaaa tctccattg 29

<210> 169
 <211> 29
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> oligonucleotide

<220>

<221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue

 <400> 169
 gngcacagag gccagcacgt taagaagga 29

 <210> 170
 <211> 29
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> oligonucleotide

 <220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue

 <400> 170
 cntcatgagg gggaccacac agttggcta 29

 <210> 171
 <211> 29
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> oligonucleotide

 <220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue

 <400> 171
 gnattctcta tgttgcaga tgccgcat 29

 <210> 172
 <211> 29
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> oligonucleotide

 <220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue

 <400> 172
 tncgcttgatg acaaggaacc aagcaattt 29

 <210> 173
 <211> 29
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> oligonucleotide

<220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue

<400> 173
 gngctaaata cgcctatata tccaaagta 29

<210> 174
 <211> 29
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> oligonucleotide

<220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue

<400> 174
 tncagagttc taaccaggct ccccaatgc 29

<210> 175
 <211> 29
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> oligonucleotide

<220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue

<400> 175
 cnactaaagg gaccataaca accaaaact 29

<210> 176
 <211> 29
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> oligonucleotide

<220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue

<400> 176
 cnagacacca acactgctac catgcgag 29

<210> 177

<211> 29
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> oligonucleotide
 <220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue
 <400> 177
 gntcacaatg gagaacacac ggagaaggc 29
 <210> 178
 <211> 29
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> oligonucleotide
 <220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue
 <400> 178
 cnggctgtcc tcgccgtttt ctaaccatg 29
 <210> 179
 <211> 29
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> oligonucleotide
 <220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue
 <400> 179
 tnctgtaggg ctgcctggct cttgtcgct 29
 <210> 180
 <211> 29
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> oligonucleotide
 <220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue

<400> 180
 antcccttag aaagagatga ctggatgtc 29
 <210> 181
 <211> 29
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> oligonucleotide
 <220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue
 <400> 181
 gngcataatc ctccagatcc atgtaaacc 29
 <210> 182
 <211> 29
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> oligonucleotide
 <220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue
 <400> 182
 tncttccaat cactatatca ccacgctca 29
 <210> 183
 <211> 29
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> oligonucleotide
 <220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue
 <400> 183
 gnatagacga agccccctgc cacagatcg 29
 <210> 184
 <211> 29
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> oligonucleotide
 <220>

<221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue

 <400> 184
 gnccttcctt ccactggact gccacaaca 29

 <210> 185
 <211> 29
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> oligonucleotide

 <220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue

 <400> 185
 cnggaacctt cttcgtacac tgcctttgg 29

 <210> 186
 <211> 29
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> oligonucleotide

 <220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue

 <400> 186
 gncttgcaat tactgatcca accctctgt 29

 <210> 187
 <211> 29
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> oligonucleotide

 <220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue

 <400> 187
 tnctgtctcg tcataaaaca gctctgggg 29

 <210> 188
 <211> 29
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> oligonucleotide

 <220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue

 <400> 188
 gngaaacatg tggatgat ggcagaagc 29

 <210> 189
 <211> 29
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> oligonucleotide

 <220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue

 <400> 189
 angagtcac tggatgat tgactaac 29

 <210> 190
 <211> 29
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> oligonucleotide

 <220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue

 <400> 190
 gnccagatg acacaggaga atagacatt 29

 <210> 191
 <211> 29
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> oligonucleotide

 <220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue

 <400> 191
 cntgtatg cttctctg actatctaa 29

 <210> 192

<211> 29
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> oligonucleotide

 <220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue

 <400> 192
 gnaacttgaa ttccgcacat ggcatagcc 29

 <210> 193
 <211> 29
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> oligonucleotide

 <220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue

 <400> 193
 tntccacag ggcatacatg gtggttcat 29

 <210> 194
 <211> 29
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> oligonucleotide

 <220>
 <221> misc_feature'
 <222> (2)
 <223> biotinylated phosphoramidite residue

 <400> 194
 cntctgcatt tttttctgtg atcggctctt 29

 <210> 195
 <211> 29
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> oligonucleotide

 <220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue

<400> 195	
tngtccttttt gtgagtgttt tctgactgc	29
<210> 196	
<211> 29	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> oligonucleotide	
<220>	
<221> misc_feature	
<222> (2)	
<223> biotinylated phosphoramidite residue	
<400> 196	
gncactaact ctaaaatccc accctgcct	29
<210> 197	
<211> 23	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> oligonucleotide	
<220>	
<221> misc_feature	
<222> (2)	
<223> biotinylated phosphoramidite residue	
<400> 197	
cactatgagg tttaattgga aac	23
<210> 198	
<211> 21	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> oligonucleotide	
<400> 198	
tcctgaattg aaagcaactg c	21
<210> 199	
<211> 21	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> oligonucleotide	
<400> 199	
aactccatga ctgaccgaca c	21
<210> 200	
<211> 20	
<212> DNA	

<213> Artificial Sequence

<220>

<223> oligonucleotide

<400> 200

tcagttcccg tcatattcag

20

<210> 201

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> oligonucleotide

<400> 201

gaccaagctg gtgaaccg

18

<210> 202

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> oligonucleotide

<400> 202

gtgctgttta gactcagatt c

21

<210> 203

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> oligonucleotide

<400> 203

agctcacaga gtcaggacat c

21

<210> 204

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> oligonucleotide

<220>

<221> misc_feature

<222> (2)

<223> biotinylated phosphoramidite residue

<400> 204

cnacgccag tcctttctcc aagttcttt

29

<210> 205

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> oligonucleotide

<220>

<221> misc_feature

<222> (2)

<223> biotinylated phosphoramidite residue

<400> 205

tnattctctc cttcaatgcg gatgtctgg

29

<210> 206

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> oligonucleotide

<220>

<221> misc_feature

<222> (2)

<223> biotinylated phosphoramidite residue

<400> 206

antctatctt ggatgccttt acttctctgc

29

<210> 207

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> oligonucleotide

<220>

<221> misc_feature

<222> (2)

<223> biotinylated phosphoramidite residue

<400> 207

anagagagag tcaacgtcgg cagagcgag

29

<210> 208

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> oligonucleotide

<220>

<221> misc_feature

<222> (2)

<223> biotinylated phosphoramidite residue

<400> 208

tngattgaca ccaatccctt cagccttat

29

<210> 209
 <211> 29
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> oligonucleotide

 <220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue

 <400> 209
 anagcgtcat cgtttagcgat gccttgtat 29

 <210> 210
 <211> 29
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> oligonucleotide

 <220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue

 <400> 210
 gngacacagc agagaacgaa ctgacagga 29

 <210> 211
 <211> 29
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> oligonucleotide

 <220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue

 <400> 211
 cnttgatga atcgtggact tcctgttct 29

 <210> 212
 <211> 29
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> oligonucleotide

 <220>
 <221> misc_feature
 <222> (2)

<223> biotinylated phosphoramidite residue

<400> 212

tnggtgttga cagtgaccag atagaggct

29

<210> 213

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> oligonucleotide

<220>

<221> misc_feature

<222> (2)

<223> biotinylated phosphoramidite residue

<400> 213

antgggtgttc ttctatgttc tcaagttcc

29

<210> 214

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> oligonucleotide

<220>

<221> misc_feature

<222> (2)

<223> biotinylated phosphoramidite residue

<400> 214

gntgggtctg atgtcctgct gtttttgga

29

<210> 215

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> oligonucleotide

<220>

<221> misc_feature

<222> (2)

<223> biotinylated phosphoramidite residue

<400> 215

angtcaggga ggcaccgtag ttaatgaat

29

<210> 216

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> oligonucleotide

<220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue

 <400> 216
 ancggttaact ctgaccagtg tcctggaag 29

 <210> 217
 <211> 29
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> oligonucleotide

 <220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue

 <400> 217
 tnctgtggaa caggaggtca ctacgtga 29

 <210> 218
 <211> 29
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> oligonucleotide

 <220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue

 <400> 218
 cncgtggtcat aagacagtac tccagcgct 29

 <210> 219
 <211> 29
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> oligonucleotide

 <220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue

 <400> 219
 tnataatgct acttaaccac cttttgtct 29

 <210> 220
 <211> 29
 <212> DNA

<213> Artificial Sequence

<220>

<223> oligonucleotide

<220>

<221> misc_feature

<222> (2)

<223> biotinylated phosphoramidite residue

<400> 220

cntgacacaa atccaccttc ttgccacct

29

<210> 221

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> oligonucleotide

<220>

<221> misc_feature

<222> (2)

<223> biotinylated phosphoramidite residue

<400> 221

tnagtgtctt gtagtgttct gtgtgagtt

29

<210> 222

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> oligonucleotide

<220>

<221> misc_feature

<222> (2)

<223> biotinylated phosphoramidite residue

<400> 222

gntcatggat ggcacgacag aattaggat

29

<210> 223

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> oligonucleotide

<220>

<221> misc_feature

<222> (2)

<223> biotinylated phosphoramidite residue

<400> 223

anattgtcat ttaaaatgag cacctccag

29

<210> 224
 <211> 29
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> oligonucleotide

 <220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue

 <400> 224
 cnctagccac cacagcatag tcagaatcc 29

 <210> 225
 <211> 29
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> oligonucleotide

 <220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue

 <400> 225
 gngcagcatg gacctgtcag caactaagg 29

 <210> 226
 <211> 29
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> oligonucleotide

 <220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue

 <400> 226
 gntcagcgcg tctctgggtt gggttcctc 29

 <210> 227
 <211> 29
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> oligonucleotide

 <220>
 <221> misc_feature
 <222> (2)

<223> biotinylated phosphoramidite residue
 <400> 227
 gnacaccatc agatgtatga aatgtgggt 29
 <210> 228
 <211> 29
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> oligonucleotide
 <220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue
 <400> 228
 tnccacctct gaagcctgat tactgtgtg 29
 <210> 229
 <211> 29
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> oligonucleotide
 <220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue
 <400> 229
 tnttgggctc gtccttcttg gcctccttc 29
 <210> 230
 <211> 29
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> oligonucleotide
 <220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue
 <400> 230
 cntaatgttg actgcagagg gaaaggcaa 29
 <210> 231
 <211> 29
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> oligonucleotide

<220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue

 <400> 231
 tngataattt tgggcttctt tttggaacc 29

 <210> 232
 <211> 29
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> oligonucleotide

 <220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue

 <400> 232
 tnagcggctg tctccacagg acaatattc 29

 <210> 233
 <211> 29
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> oligonucleotide

 <220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue

 <400> 233
 tncccgatat acacggaaat agggttact 29

 <210> 234
 <211> 29
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> oligonucleotide

 <220>
 <221> misc_feature
 <222> (2)
 <223> biotinylated phosphoramidite residue

 <400> 234
 tngatttccc aacatttggc aatccaaca 29

 <210> 235
 <211> 29
 <212> DNA

<213> Artificial Sequence

<220>

<223> oligonucleotide

<220>

<221> misc_feature

<222> (2)

<223> biotinylated phosphoramidite residue

<400> 235

angcagcgaa aggtccctcg acttcatag

29

<210> 236

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> oligonucleotide

<400> 236

cggaagaag aaagccacag

20

<210> 237

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> oligonucleotide

<220>

<221> misc_feature

<222> (2)

<223> biotinylated phosphoramidite residue

<400> 237

tngtcagagc cccaatggca aacacagaa

29

<210> 238

<211> 86

<212> PRT

<213> Homo sapiens

<400> 238

Met Ser Gly His Ser Leu Ala Arg Thr Leu Leu Leu Tyr Leu Arg Asn
1 5 10 15

Met Thr Phe Leu Phe Gln Arg Met Met Met Met Thr Asn Arg Asn
20 25 30

Tyr Arg Lys Glu Lys Ala Leu Thr Glu Glu Met Val Met Leu Ser Val
35 40 45

Ser Leu Pro Ser Leu Ser Ala Glu Arg Leu Gly Glu Gly Pro Gln Pro
50 55 60

Pro Ser Leu Val Lys Leu Pro Val Trp Ser Met Thr Val Phe His Pro
65 70 75 80

Arg Leu Trp Glu Ala Pro
85

<210> 239
<211> 48
<212> PRT
<213> Homo sapiens

<400> 239
Met Arg Leu Leu Leu Leu Leu Val Ala Ala Ser Ala Met Val Arg
1 5 10 15
Ser Glu Ala Ser Ala Asn Leu Gly Gly Val Pro Ser Lys Arg Leu Lys
20 25 30
Met Gln Tyr Ala Thr Gly Pro Leu Leu Lys Phe Gln Ile Cys Val Ser
35 40 45

<210> 240
<211> 140
<212> PRT
<213> Homo sapiens

<400> 240
Met Leu Ser Asn Arg Leu Pro Phe Ser Ala Ala Lys Ser Leu Ile Asn
1 5 10 15
Ser Pro Ser Gln Gly Ala Phe Ser Ser Leu Arg Asp Leu Ser Pro Gln
20 25 30
Glu Asn Pro Phe Leu Glu Val Ser Ala Pro Ser Glu His Phe Ile Glu
35 40 45
Asn Asn Asn Thr Lys Asp Thr Thr Ala Arg Asn Ala Phe Glu Glu Asn
50 55 60
Val Phe Met Glu Asn Thr Asn Met Pro Glu Gly Thr Ile Ser Glu Asn
65 70 75 80
Thr Asn Tyr Asn His Pro Pro Glu Ala Asp Ser Ala Gly Thr Ala Phe
85 90 95
Asn Leu Gly Pro Thr Val Lys Gln Thr Glu Thr Lys Trp Glu Tyr Asn
100 105 110
Asn Val Gly Thr Asp Leu Ser Pro Glu Pro Lys Ser Phe Asn Tyr Pro
115 120 125
Leu Leu Ser Ser Gln Val Ile Ser Leu Lys Phe Ser
130 135 140